Abstract

Title of Dissertation: PREDICTING COLLEGE ADAPTATION AMONG STUDENTS WITH PSYCHIATRIC DISABILITIES

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The number of college students with psychiatric disabilities has been growing steadily in higher education in recent years. Most of these students choose not to disclose their mental health conditions and do not register with disability services. Thus, little is known about the subjective experiences of these students in their college lives. This study seeks to identify college students with psychiatric disabilities and to explore the factors predicting college adaptation among these students. Participants in the study were 292 college students with psychiatric disabilities who completed at least one semester in a large mid-Atlantic University. Participants completed an on-line survey of college adaptation, internalized stigma, social supports, and coping strategies. With hierarchical multiple regression analyses, results of the study suggest that internalized stigma of mental illness has significant relationships with college adaptation. Supports from different sources may play different roles in adaptation to college. Family support was found to be associated with academic adjustment and personal-emotional adjustment, while support from friends was significantly related to better social adjustment and attachment. Use of coping strategies was also found to be predictive of college adaptation. Greater use of seeking support and less use of venting and self-distraction are associated

with better academic adjustment. Particularly, self-blame coping was negatively related to all three types of psychosocial adaptation. The current study suggests that interventions that reduce internalized stigma and increase use of effective coping strategies should be developed and implemented in college. Collaboration among special educators in middle schools, families, and college disability services staff is also addressed. Finally, efforts should be made to create services that meet students' needs and increase their willingness to understand and use available resources.

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By

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Dedication

This dissertation is dedicated to my mother, 許菊華 (Chu-Hua Hsu),

in memory of my father, 林浩然 (Hao-Jen Lin),

and my grandmother, 陳招治(Chiao-Chih, Chen).

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List of Tables

Table of Contents

Chapter 1: Statement of the Problem

Introduction

Advanced educational degrees have become prerequisites for professional and skilled jobs, and having an advanced degree is often associated with higher salaries and better benefits (DePrince & Morris, 2008). Research has also indicated that better access and achievement in postsecondary education improved both the rate and quality of employment for adults with disabilities (Stodden & Dowrick, 1999). Patricia Deegan, a clinical psychologist diagnosed with schizophrenia as a teenager, stated that individuals with psychiatric disabilities need environments that provide choice, options, information, role models; opportunities to be heard, develop and exercise a voice; and opportunities for bettering one's life. Opportunities for individuals with psychiatric disabilities to raise consciousness and find collective pride is imperative (Deegan, 1996). For individuals with psychiatric disabilities, attending postsecondary education can bring a purpose in life and pride in oneself. College students with psychiatric disabilities also reported that attending postsecondary education institutions can provide a chance to transfer their life roles from "patients" to "workers" (Knis-Matthews, Bokara, DeMeo, Lepore, & Mavus, 2007).

A psychiatric disability can be defined as "a mental impairment that substantially limits one or more of the major life activities of an individual; a record of impairment; or being regarded as having such an impairment" (Americans with Disabilities Act, 1990). Common diagnostic categories of psychiatric impairments include: mood disorders (e.g., bipolar disorder), anxiety disorders (e.g., panic disorder), and thought disorders (e.g., schizophrenia). According to the ADA, the mental illness itself does not equate a

psychiatric disability. The presence of functional limitations associated with mental illness is an important indicator of the existence of psychiatric disability. The ADA Amendments Act of 2008 indicated that disability can refer to "an impairment that is episodic or in remission is a disability if it would substantially limit a major life activity when active" (ADA Amendments, 2008). In addition, the Act further states that, major depression, bipolar disorders, and schizophrenia can be defined as psychiatric disabilities whether or not there is a limitation in major life activities existing at the time of diagnosis.

In the last two decades, with the implementation of civil rights legislation, the number of students with disabilities pursuing postsecondary education has been steadily increasing. Data from the National Longitudinal Transition Study-2 (NLTS-2) suggested that college enrollment rates of students with disabilities increased from 15% to 32% between 1987 and 2003 (Newman, Wagner, Cameto, & Knokey, 2009). According to the 2004 Digest of Educational Statistics, about 11% of college students reported having a disability, and 21.9% of these students identified themselves as having mental illness or depression (Horn & Neville, 2006). According to the 2012 National College Health Assessment, 10.9 % of college students reported being diagnosed or treated by a professional for depression, and 11.9% for anxiety. Around thirty percent of students (31.6%) reported feeling so depressed that it was hard to function at least once within a year, and 51.3% of students reported feeling overwhelming anxiety at least once within a year (American College Health Association, 2012). In addition to the legislation and policies in place for assuring that students with disabilities have the supports needed to succeed in college, the improvement of medications and advances in psychiatric rehabilitation methods may also contribute to the growing number of students with

psychiatric disabilities on college campuses (Collins & Mowbray, 2008; Weiner & Wiener, 1996)

Students with psychiatric disabilities who are qualified for postsecondary education may typically experience relatively mild symptoms but still face academic challenges containing one or more of the following functional limitations: difficulty screening out environmental stimuli, difficulty sustaining concentration and stamina, difficulty handling time pressure and multiple tasks, difficulty interacting with others (especially authority figures), difficulty responding to negative feedback, difficulty responding to change, and difficulty in managing test anxiety (Center for Psychiatric Rehabilitation, 1997; Souma, Rickerson, & Burgstahler, 2004). These functional limitations may decrease their emotional and behavioral skills, cause academic problems, and decrease their self-efficacy (Megivern, Pellerito, & Mowbray, 2003; Weiner & Wiener, 1996). College students with mental health conditions have reported that their conditions have impacted their academic achievement in several ways: difficulty with concentration, social isolation, and stress management (Knis-Matthews et al., 2007). Smith-Osborne (2005) indicated that, among the various factors that may interfere with the college adaptation for individuals with psychiatric conditions, the type and severity of an individual's disorder are still the strongest predictors for their postsecondary educational attainment.

Key Research Findings

College adaptation (also termed "adjustment") has become a crucial issue in higher education as evidenced by the growing rate of attrition (Mattanah, Hancock, & Brand, 2004). "Adjustment" may be referred to as "how well students meet the demands of

college" (Feldt, Graham, & Dew, 2011). Research investigating college adaption often encompasses several domains of college life, such as academic, social, personal-emotional, and attachment adjustment (Baker & Siryk, 1984).

Factors associated with college adaptation may be personal or environmental: personal factors such as parental attachment (Mattanah et al., 2004) and coping strategies (Livneh & Wilson, 2003), and environmental factors such as quality of student services and campus climate. For college students with psychiatric disabilities, institutional supports from on- and off-campus service providers, are also addressed by researchers (Megivern et al., 2003). Studies have indicated that important issues associated with college adaptation among students with psychiatric disabilities may include internalized stigma, social supports, and coping strategies. Key findings of these studies will be summarized in the following section and further investigated in the literature review in chapter 2.

Internalized Stigma. Despite the challenges associated with functional limitations, discrimination and stigma are major sources of stress and barriers for college students with psychiatric disabilities (Corrigan & Watson, 2002a; Blacklock, Benson, & Johnson, 2003). External stigma may have internal impact on individuals labeled as having mental illness. The impact includes eroding self-esteem, social withdrawal, and reduced trust in others (Boyd, Katz, Link, & Phelan, 2010). Those who internalize the stigma will be more likely to believe that the stereotypes are applicable to themselves and that they are not full members of society. The definition of internalized stigma often includes perceived stereotypes about mental illness, social withdrawal, and sense of isolation due to mental illness (Ritsher, Otilingam, and Grajales, 2003). Students with psychiatric

disabilities have reported their fear of being stigmatized and feelings of isolation on college campuses. Fear of being stigmatized often accounted for the low rate of disclosure and use of services among these students (Knis-Matthews et al., 2007). To what extent does internalized stigma of mental illness affect college adaptation among these students and in what domains of adaption? This question must be answered in order to develop effective interventions to assist these students in adjusting to college.

Social Supports. Among the various factors, the support system is particularly worthy of investigation. Having a social network is commonly associated with better outcomes in college adaptation for all students, whether or not they have disabilities (Gerdes & Mallinckrodt, 1994). Factors associated with receiving social support and satisfaction with social support in college include positive mood, desire for control, optimism, seeking supports, and gender (Aspinwall & Taylor, 1992). For students with disabilities, family supports are particularly crucial for them to learn their legal rights and secure the services required to succeed in college. A majority of college students with learning disabilities reported learning about their legal rights and disability services from their family members rather than their special education teachers or school counselors (Anctil, Ishikawa, & Scott, 2008). According to Clara, Cox, Enns, Murray, and Torgrudc (2003), perceived supports from family and friends had significant negative associations with depression among college students and individuals with psychiatric disabilities. Relationships between staff members and students are also found to be beneficial for disengaged students in developing a sense of belonging within academia (Morosanu, Handley, & O'Donovan, 2010).

Coping Strategies. The use of coping strategies also plays a role in college adaptation. Aspinwall and Taylor (1992) found that coping strategies may mediate the relationship between psychosocial variables and college adaptation. Nonuse of avoidance coping, greater use of active coping, and greater seeking social support mediated the benefits of optimism, control, and self-esteem on college adjustment, while controlling for initial positive and negative mood. For students with disabilities, active strategies, such as self-advocacy and use of conflict resolution skills, are commonly believed to be essential for students to secure the supports needed in college campuses, especially when the educational supports and accommodations available in postsecondary educational institutions vary across campuses and states (Stodden, Whelley, Chang, & Harding, 2001). However, compared to students with other types of disabilities, students with mental health problems are often most vulnerable because some of them are unwilling to accept their mental health problems. These students also often feel that their mental health problems were not considered a "disability", and they often do not disclose it on campus (Megivern et al., 2003). Students who experience being stereotyped after disclosure mental illnesses often became reluctant to seek supports in college and prefer to use other sources of services to handle their challenges (Knis-Matthews et al., 2007). Studies so far have indicated that college students with psychiatric disabilities are less likely to take actions to advocate for their legal rights than are students with other types of disabilities, but little is known about the coping strategies used by these students in order to adjust to their college lives. A systematic inspection of types of coping strategies used by these students and associations between coping strategies and college adjustment is necessary.

Gaps in Literature

With the growing number of students with psychiatric disabilities in postsecondary educational institutions, it will be useful to know about the factors associated with college success for this population. A number of studies on issues related to college success among students with psychiatric disabilities focus on service provision and staff attitudes (Becker, Martin, Wajeeh, Ward, & Shern, 2002; Brockelman, Chadsey, & Loeb, 2006; Collins & Mowbray, 2008). Such studies provide us important information regarding the larger environment and available resources for these students. There is also evidence indicating that students with psychiatric disabilities do not often take advantage of these services and supports (Megivern et al., 2003). Little is known about the college adaptation of students with psychiatric disabilities who do not use services and how they manage their challenges in college. Other studies which investigated supports and barriers to college students with psychiatric disabilities are often qualitative studies with small samples (Knis-Matthews et al., 2007; Megivern et al., 2003) or are not from the students' perspectives (Collins & Mowbray, 2005a). In these studies, difficulty in dealing with stigma, paradoxical attitudes toward supports and resources, and use of diverse coping strategies, are often mentioned but not systematically explored. The present study investigates whether these factors significantly predict college adaptation among college students with psychiatric disabilities and the size of the relationships between these factors.

Significance of the Study

Higher education is meaningful for individuals with psychiatric disabilities in terms of their getting better employment opportunities as well as their playing a productive and

purposeful role in the community. Practitioners and educators working with college students with psychiatric disabilities should better understand the factors associated with college adaptation among these students in order to provide effective supports and improve the college success rates.

The International Classification of Functioning, Disability, and Health (ICF) model proposed by World Health Organization (WHO, 2001) introduced a comprehensive framework to understand functioning of individuals from both personal and environmental perspectives. Previous literature also revealed that both individual factors and environment supports play important roles in college adaptation among individuals with psychiatric disabilities. The ICF model will be used to synthesize these diverse factors into a comprehensive framework. The variables which will be examined in this study are internalized stigma, social supports, and coping strategies.

College students with psychiatric disabilities and personnel working with them have indicated that being stigmatized on college campuses was a major source of stress in the lives of college students and prohibited them from seeking available resources. Yet little attention has been drawn to these students' subjective experiences of being stigmatized. The investigation of internalized stigma will provide researchers and practitioners insight into the impact of internalized stigma on these students.

Social supports are commonly identified as a major factor in positive college adaptation for college students. In this study, both the effects of perceived social supports from personal social networks and reception of disability and mental health services on college adaptation will be explored.

Effects of using diverse coping strategies on college adaptation will also be examined. This exploratory study will provide information for practitioners to identify helpful and harmful coping strategies that relate to better college adjustment.

Definitions of Terms

College students with psychiatric disabilities. For the purpose of this study, college students with psychiatric disabilities are adults in postsecondary institutions who have been diagnosed with a mental illness which substantially limits a major life activity (e.g., concentrating) or have been diagnosed with an episodic mental illness such as major depression, bipolar disorder, or schizophrenia.

Internalized stigma. Internalized stigma is the psychological impact of external stigma on the individuals within the stigmatized group. In this study, internalized stigma will be assessed through the perceptions of college students with psychiatric disabilities toward the mental illness label. In this study, internalized stigma will be measured by a brief version of the Internalized Stigma of Mental Illness Scale (ISMIS) developed by Ritsher et al. (2003). The major constructs of this measure include: alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance.

Social supports. Social supports can be defined as "perceived or actual/instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" (p.18, Lin, 1986). In this study, "social supports" refers to perceived adequacy of social supports from three sources of support: family, friends, and a significant other and will be measured by Multidimensional Scale of Social Supports (MSPSS) developed by Zimet, Dahlem, Zimet, and Farley (1988).

Coping strategies. Coping refers to responses aimed at eliminating physical, psychological, and emotional burden associated with stressful life events (Snyder & Dinoff, 1999). In this study, coping will be measured by the Brief COPE inventory (Carver, 1997) which consists of 14 subscales: self-distraction, active coping, denial, substance use, use of emotional supports, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. Previous studies indicate that the Brief COPE often yields three coping factors: problem-focused coping, avoidance coping, and social coping (or support seeking) (Snell, Siegert, Hay-Smith, & Surgenor, 2010; Welbourne, Eggerth, Hartley, Sanchez, & Andrew, 2007). For the purpose of this study, a factor analysis will be conducted to extract higher order coping strategy approach.

College Adaptation. College adaptation refers to the adjustment process that involves coping with challenges in college life. In this study, adaptation to college will be evaluated by the Student Adaptation to College Questionnaire (SACQ) developed by Baker and Siryk (1999), which consists of four domains of college adaptation: academic adjustment, personal-emotional adjustment, social adjustment, and attachment to the institution.

Research Questions

The purposes of this study are: (a) to investigate the relationships between internalized stigma, social supports, coping strategies, and college adaptation among students with psychiatric disabilities, and (b) to examine the contribution of internalized stigma, social supports, and coping strategies in predicting college adaptation when

controlling for demographic variables. This investigation will be guided by the following questions:

1. What is the relationship among internalized stigma, perceived social supports, coping strategies, and college adaptation of students with psychiatric disabilities?
2. Are there relationships between predictor variables (internalized stigma, perceived social supports, coping strategies) and college adaptation among college students with psychiatric disabilities when ethnicity background, gender, type of mental illness, and functional limitations are taken into consideration?

Chapter 2: Literature Review

This review will first introduce the ICF model, which will be utilized as a framework to conceptualize the issues related to college adaptation among college students with psychiatric disabilities. Secondly, research on the environmental supports associated with the success of college students with psychiatric disabilities in higher education will be reviewed. Third, external and internalized stigma associated with psychiatric disabilities and impact on students with psychiatric disabilities will be discussed. Forth, an introduction of coping strategies and the role of coping strategies on college adaptation will be provided. Lastly, a review of the literature linking the concepts of internalized stigma, social support, coping strategies, and college adaptation will be presented. Gaps in current research will also be examined.

Psychiatric Disabilities within the ICF Model

The ICF model proposed by the World Health Organization (WHO, 2001) is a framework which conceptualizes psychiatric disabilities in a comprehensive way that not only includes impairments but also emphasizes the descriptions of daily performances and participation, with consideration of personal and environmental factors. With the ICF model, practitioners may expand their ways of assessing the functioning of individuals with disabilities with whom they work by integrating their symptoms, personal factors, and environmental factors. The ICF model has also been applied to build a prediction model of quality of life among the elderly in Korea (So, Kim, & Ju, 2011). The ICF adopts a biopsychosocial approach that considers all human functioning and disabilities to be a product of the interaction between the health conditions, personal factors, and the environmental factors.

According to the definitions of disabilities in the ICF model, psychiatric disability occurs when a psychiatric disorder interferes with a person's functions in a particular role or an environment (MacDonald-Wilson & Nemec, 2005). Functional limitations associated with psychiatric disabilities are often in one or more of three areas: social/interpersonal, emotional/psychological, and cognitive functions (MacDonald-Wilson, Rogers, & Massaro, 2003). In the ICF model, environmental context is highlighted and functioning is evaluated in the context of a specific environment. The ICF can also be utilized to understand the issues that either hinder or facilitate success for individuals with psychiatric disabilities (MacDonald-Wilson & Nemec, 2005). In the following section, literature related to college adaptation of students with psychiatric disabilities will be reviewed under the framework of the ICF model and linked to the major components of the ICF model.

Environmental Supports for College Adaptation

Rehabilitation counseling involves not only assisting persons with disabilities to adapt to the environment but also changing the environment to accommodate the needs of people with disabilities (Szymanski, 1985). To create the best support systems for individuals with disabilities, rehabilitation counselors must know the contextual environment of the individual and learn to work with other professionals, employers and the individual's family members (Patterson, Szymanski, & Parker, 2005).

Research has indicated that a number of systemic barriers exist for college students with psychiatric disabilities in pursuing higher education. The common systematic barriers include interpersonal discrimination, gaps in service provision, difficult with social relationships, fears of stigma after disclosing, and challenges regarding diagnosis

and documentation (Collins & Mowbray, 2008; Manthorpe & Stanley, 2000; Weiner & Wiener, 1996; Loewen, 1993). Literature on environmental factors which are influential to college adaptation among students with disabilities will be summarized in the following sections.

Legislation. In the last two decades, Civil rights legislation has affected the lives of individuals with psychiatric disabilities. Several laws have addressed equal educational opportunities for individuals with disabilities, such as the Rehabilitation Act in 1974, Individuals with Disabilities Education Act (IDEA) in 1990 and its Improvement Act in 2004, the ADA in 1990 and its Amendments Act of 2008.

While many students with disabilities in transitional age struggled with understanding and using different legislation coverage and protections in transiting from secondary schools to postsecondary educational institutions, students with mental health problems often face more difficult situations. Students with disabilities often experience some difficulties in transitioning from high school to postsecondary settings caused by the gap in environmental supports between high schools and postsecondary education institutions. Moving from high school to postsecondary educational settings means to leave a protective environment of a child who receives care and support, to a new place where young adults are expected to self-identify as a person with a disability and initiate requests for specific accommodations (Gartin & Rumrill, 1996). Those students with psychiatric disabilities, particularly, have difficulties in this process. First of all, most students diagnosed with psychological disorders do not identify themselves as “a person with disability”. According to NLTS-2, among college students who had documented emotional disturbances in high school, 63% of these students did not consider themselves

to have a disability (Newman et al., 2009). Furthermore, 16% of these students did consider themselves having a disability, but they did not inform their colleges. As a consequence, only 13% students with emotional disturbance received accommodations from their postsecondary educational institutions. In another study, among the 35 college students with psychiatric disabilities interviewed, only two (5.7%) disclosed their mental illness to faculty or staff (Megivern et al., 2003). The low disclosure rate resulted in very few students with psychiatric disabilities receiving academic supports and accommodations. Lack of knowledge about their legal rights and available accommodations may be the major reason for the low disclosure rate. Many students with psychiatric disabilities do not have knowledge about their legal rights under ADA and perceived academic accommodations as reserved for students with physical disabilities (Megivern et al., 2003). They may also hesitate to take advantages of their legal rights due to fear of being stigmatized by faculty and peers (Weiner & Wiener, 1996).

State policy. With the growing number of students enrolling in postsecondary educational institutions, policy makers should develop policies that support these students in achieving their higher education goals. Collins and Mowbray (2005b) investigated statewide policies about the provision of supports for students with psychiatric disabilities. Data were collected from key informants in various settings, including state mental health, vocational rehabilitation, and higher education agencies, and state-level advocacy organizations in 10 states. Factors that either facilitated or impeded the development of policy and programs supportive of individuals with psychiatric disabilities in postsecondary education were identified. Facilitating factors included a strong community college system, progressive philosophy of the state mental health

agency, and interest of consumers and the advocacy community. Impeding factors included political and budgetary uncertainty, competing priorities in the mental health system, emphasis on a medical rather than rehabilitative model, regulations of the vocational rehabilitation (VR) system, and lukewarm enthusiasm of the advocacy community. In order to develop statewide policies in providing supports for college students with psychiatric disabilities, it is necessary to facilitate the collaborations and combine the efforts of several state agencies (education, mental health, VR) and various levels of government (Collins and Mowbray, 2005b).

Some states, such as New York, Florida, and Illinois, have made efforts to diminish stigmatizing attitudes towards individuals with psychiatric disabilities. In these states, actions have been taken to foster dialogues between mental health care professionals and consumers that may increase opinions exchange and challenge underlying stigmatizing attitudes in mental health systems (Corrigan & Penn, 1999). The efforts of eliminating stigmatizing attitudes towards psychiatric disabilities may also increase educational aspirations of young adults with psychiatric disabilities and thus improve the college experiences of these students.

College policies and services. Postsecondary educational institutions have responsibilities to provide educational supports for students with disabilities who have documentation to prove their eligibility for services. To be eligible to receive any academic accommodations, college students with disabilities must first identify themselves as a person with a disability, provide appropriate documentation, register with college disability support services, and request needed accommodations.

College students with psychiatric disabilities will need academic accommodations when their functional limitations significantly interfere with their performance in learning and socializing. Many of these limitations can be addressed with certain types of academic accommodations. The Center for Psychiatric Rehabilitation at Boston University (1997) described a comprehensive list of academic accommodations that students with psychiatric disabilities may potentially use to succeed in college, such as:

- *Classroom Accommodations*: preferential seating, coach / mentor, assigned classmate as volunteer assistant, beverages permitted in class.
- *Lecture accommodations*: pre-arranged breaks, tape recorder, notetaker, photocopy or email attachment of another's notes.
- *Examination accommodations*: change in test format and frequency, permit use of technological assistance or exams to be individually proctored, extended time, or permit read orally, dictated, scribed or typed.
- *Assignment accommodations*: substitute assignments, advance notice of assignments, delay in assignment due dates, handwritten rather than typed papers, assignment assistance during hospitalization, use alternative forms for students to demonstrate course mastery, textbooks on tape.
- *Administrative accommodations*: provide modifications, substitutions, or waivers of courses, major fields of study, or degree requirements on a case-by-case basis; orientation to campus and administrative procedures; assistance with registration/financial aid, flexibility in determining "Full Time" status (for purposes of financial aid and health insurance), assistance with selecting classes and course load, parking passes, elevator key, access to lounge, incompletes rather than failures or

withdrawals if relapse occurs, identified place to meet on campus that feels "safe" before or after class.

Campus disability services play an important role in the provision of academic accommodations for students with psychiatric disabilities. A national survey indicated that around 69% of the college disability support service offices reported that their schools were supportive to students with psychiatric disabilities, with only 6% unsupportive or very unsupportive (Collins & Mowbray, 2005b). Services that commonly offered to students with psychiatric disabilities included providing accommodation letters and assisting students in obtaining documentation. The factors associated with the number of students registering with the campus disability services included: a specific disability services office available in the schools, the size of the office, having staff in the office with specific qualifications in psychiatric disability, schools having a supported education program in the area, and having staff with training in supported education (Collins & Mowbray, 2008).

In recent years, scholars started to notice that implementing universal design in higher education may also be an effective intervention to support students with disabilities. Universal design considers the needs of students from diverse backgrounds, not only students with disabilities, and involves altering classroom and teaching practices that improve learning experiences and accessibility for all students. Methods to implement universal design include maximizing the usability of educational materials and revising educational environments in order to meet a variety of students' needs (Souma et al., 2004).

The fear of being stigmatized for mental illness among college students with psychiatric disabilities is common. With the adoption of universal design, these students may be able to receive the educational supports they need without requesting general academic accommodations through disability service offices. In fact, in a needs assessment project conducted by Blacklock and colleagues (2003) at the Disability Services, University of Minnesota, universal design is identified by stakeholders as one of the major strategies to remove barriers for college students with psychiatric disabilities.

However, a number of institutional barriers for college students with psychiatric disabilities exist in postsecondary education institutions. Resources and insurance coverage provided for the students are often limited. Access to information and services are inadequate. Many students reported that they were frustrated with the lack of information about psychiatric disabilities and access to campus resources, as well as the complex, bureaucratic procedures involved when they attempted to use campus services. The students' reluctance to use institutional supports corresponds with the findings of Morosanu and colleagues' study that first-year college students are reluctant to use institutional supports but preferred seeking supports of their own choice (Morosanu et al., 2010). When students with psychiatric disabilities contact with the disability services staff only when they need specific services (e.g. asking for academic accommodation letters), the relationship would be similar to common staff-student relationship which is described as "unilateral, infrequent, and hierarchical".

The organizational and institutional barriers identified included a lack of service coordination and communication between service providers, limited funds to support

these services, and faculty concerns about safety and classroom management, as well as campus identity and climate. The campus climate in some universities does not support accommodation for institutional policy and procedures. In several campuses, students' ethnicity and cultural heritage was identified as a factor that interacted with their disability and further contributed to the complex nature of managing a psychiatric disability. It is particularly noteworthy that, for all 13 campuses the research team investigated, the most salient barrier identified was stereotypes and stigma (Blacklock et al., 2003).

Clinicians who conduct academic accommodation assessments are identified as an important source of support for these students. Without appropriate documentation, students will not be able to get needed supports. However, it has been noticed that there is limited training for the clinicians in conducting academic accommodation assessments for students with hidden disabilities (Gordon, Lewandowski, Murphy, & Dempsey, 2002). Clinicians often do not have the necessary knowledge and skills in making judgments about functional limitations and providing appropriate accommodation suggestions to students with hidden disabilities, including psychiatric disabilities. Among 147 clinicians who completed a survey about documentation requirements and diagnostic standards regarding their knowledge and practices for college students with hidden disabilities who sought academic accommodations, there was little consensus among these clinicians about the basic intent of the law (i.e., the American with Disabilities Act [ADA]) and the metrics for assessing impairments (Gordon et al., 2002). Particularly, around one fifth of participants in the study reported that they think it is appropriate assign a diagnostic label of learning disability, ADHD, or a psychiatric disorder for purposes of obtaining test

accommodations even if clinical data do not completely meet professional criteria. The consequence was that students paid a considerable amount of money for clinicians who failed to provide adequate evidence or accurate judgments that support their accommodation needs. An even worse consequence was that the students may be convinced that they had a disability even when the evidence was weak. It is important to provide clinicians the necessary clinical training and accurate information about the legal requirements and diagnostic standards in terms of hidden disabilities and academic accommodations.

To summarize, the lack of knowledge and supports for individuals with psychiatric disabilities on college campuses is common. People with psychiatric disabilities are often viewed in our society as malingerers or complainers instead of being legitimately disabled (Cook & Jonikas, 2002) and thus are often misunderstood and under-served in postsecondary education institutions (Weiner & Wiener, 1996). The conflict between the stigma toward psychiatric disabilities and the higher education culture that often emphasizes responsibility and independence should also be addressed in order to create a supportive environment for these students. It is crucial for the college policy makers to provide adequate training for stakeholders who are responsible for promoting the understanding of students with psychiatric disabilities as members of the university community (Blacklock et al, 2003).

Supported education programs. Supported education plays an important role in assisting individuals with severe mental illness to enter and to remain in postsecondary educational institutions. In supported education programs, individuals with severe mental illness learn to develop their postsecondary educational goals and to secure the supports

and resources to achieve these goals. The philosophy of supported education is to promote participation of individuals with mental illness in integrated educational settings.

One example of supported education is the model developed by the Center for Psychiatric Rehabilitation at Boston University. This supported education program model helped individuals with psychiatric disabilities to establish educational plans, access supports and resources, develop academic and social skills, and cope with specific problems related to having a psychiatric disability. On-site mentorship and access to contingency funds were also provided as part of the supported education services (Rogers, Farkas, Anthony, & Kash-MacDonald, 2009). Collins, Bybee, and Mowbray (1998) compared participants in supported education programs and those who only received service providers' contact information. The results indicated that individuals with supported education services were more likely to take college or vocational classes. In the United States, supported education programs are growing and doing well. These programs provide individuals with psychiatric disabilities assistance, preparation, and supports in pursuing postsecondary education (Collins et al., 1998). Literature has indicated that supported education programs are effective in assisting individuals to identify their goals, locate their resources, and cope with barriers to complete their education (Rogers et al, 2009). Service providers in these programs also play a role in coordinating postsecondary educational institutions in negotiating accommodations and securing needed resources for students with psychiatric disabilities (Collins & Mowbray, 2008).

A systematic review of supported education between 1989 and 2009 pointed out that current literature on investigating supported education is limited in a few models and

failed to provide rigorous evidence of the effectiveness of supported education programs (Rogers at al., 2009). More research should be done on supported education, and collaboration between supported education and postsecondary educational settings should also be investigated.

For college students with psychiatric disabilities participating in supported education programs, supported education program staff often play an important role in coordinating the services that allow these students to determine and access needed academic accommodations (Collins & Mowbray, 2008). However, there is also some evidence that agency-based supported education programs tend to focus more on helping individuals with psychiatric disabilities to access postsecondary educational institutions than on promoting retention of enrolled students (Mowbray, Megivern, & Holter, 2003)

Faculty support. In addition to academic supports and counselors on campuses, teachers' extra help is also a crucial factor that contributes to college success among college students with mental illness (Knis-Matthews et al., 2007). Faculty attitudes play an important role in ensuring students with disabilities have access to effective academic accommodations. Many faculty members report limited education or training to work with students who have psychiatric disabilities (Brockelman et al., 2006). Studies also indicated that faculty members have more concerns about providing accommodations to students with psychiatric disabilities than students with other types of disabilities (Zhang et al., 2010; Wolman, McCrink, Rodriguez, & Harris-Looby, 2004). In addition to disability types, faculty's personal beliefs regarding the education of students with disabilities and level of comfort with students with disabilities are also predictive of their willingness to provide accommodations (Zhang et al., 2010). It has also been suggested

that an indirect relationship existed between faculty knowledge of legal responsibilities and willingness to provide reasonable accommodations, mediated by their personal beliefs regarding the education of students with disabilities (Zhang et al., 2010).

Another study found that several factors were predictive of faculty perceptions of working with students with psychiatric disabilities (Brockelman et al., 2006). Faculty members having better perceptions of students with psychiatric disabilities are those who have a friend with a psychiatric disability, know a student with a psychiatric disability, or currently receive treatment for a psychiatric disability. One of the implications of this study is that contact is important in terms of removing faculty attitudinal barriers toward students with psychiatric disabilities, especially for those faculty who do not have experience working with individuals with similar functional limitations. This study by Brockelman et al. (2006) echoes the study by Corrigan and Penn (1999) which found that contact reduced stigmatizing attitudes. Further, Corrigan and Penn pointed out that contact may reduce stigmatizing knowledge structures through cognitive individuation or recategorization. Cognitive individuation occurs when "a person's natural stereotype of a minority group member is superseded by another, more positive image when that person contacts a member of that group" (p. 771). Recategorization refers to "changes in the classification from them to us" (p.771).

Family support. Family involvement is important for college students with mental illness in achieving college success (Knis-Matthews et al., 2007). Parents of children with disabilities often become activists in order to secure services that meet their children's needs. The role of parental activist often involves seeking information and control of available resources, as well as challenging authority if necessary (Darling, 1988). For

students with disabilities in transition from secondary schools to college, families influence them in both career aspirations and levels of self-determination. Students with disabilities need ongoing family support while they seek autonomy in decision making (Morningstar, Turnbull, & Turnbull, 1995). Parents' demographic characteristics, such as ethnicity, immigration status, and socioeconomic status, may also influence whether they act as advocates for their children (Trainor, 2008; Kim, 2010). Parents from cultural or linguistic minority groups may have limited experiences and language proficiency to communicate or negotiate their children's accommodations needs. Parents without legal documentation may be fearful of being deported and hesitate to make connections with service providers (Trainor, 2008). Research has also indicated that there is a racial disparity in the use of mental health services because the treatment of psychiatric disabilities in diverse groups may differ (Harris, Edlund, & Sharon, 2005).

Considering the importance of familial involvement for young adults with disabilities, it is important for scholars to further explore the roles of families for college students with psychiatric disabilities in accessing accommodations and their college success. It should also be noted that, for students with psychiatric disabilities, "family stigma" should also be taken into consideration when investigating family involvement in their school lives. Corrigan and Miller (2004) pointed out that parents of children with mental illness are often blamed for causing their children's illness, and siblings are often blamed for not helping the individual with mental illness to adhere to treatment plans. Findings from a study on college experiences by Megivern et al. (2003) suggested that individuals with psychiatric disabilities often disclose their mental illness to their family but few received the supports they need. About 90% said that their symptoms have

resulted in social isolation and conflict and 40% reported having problems in their family life. Note that the sample size in this study is small (*N*= 35) and the sample consists of individuals who have prior experiences of college but not attend college at the time of being interviewed. To develop better information about the familial relations of college students with psychiatric disabilities, it would be helpful to collect opinions from more students who attend postsecondary educational institutions.

Collaborations among support systems. College students with psychiatric disabilities reported that the coordination between mental health and educational systems is critical in terms of addressing both their educational and mental health needs and also in terms of preventing early college departure (Megivern et al., 2003). The partnership between faculty members and disability services staff is also important. Zhang et al. (2010) found that university faculty members' perceived institutional support (e.g., support from disability services and administrators) has a direct effect on their beliefs regarding students with disabilities. Such beliefs, according to the study findings, would eventually influence their provision of academic accommodations to students with disabilities. The collaboration between families and secondary schools is often addressed (Morningstar et al., 1995), but collaboration is not sufficiently investigated in higher education. As mentioned earlier, little is known about parental involvement for college students with psychiatric disabilities. Efforts should be made to research this topic in order to conceptualize the role of family engagement in college experiences for students with psychiatric disabilities. Ethnic and cultural backgrounds of parents and service providers may also affect this relationship and should be considered in sample collection and developing analytic strategies.

Personal Factors for College Adaptation

Cultural Background. Leake et al. (2006) noted that students with disabilities who belonged to minority groups often face additional barriers to success than do students with disabilities from majority groups. The additional barriers include lack of cultural competence by faculty and other personnel in the provision of instruction and services; feeling socially isolated on campuses, unavailability of appropriate mentors and role models; lack of attitudes, skills and knowledge needed for postsecondary education success; lack of assistive and/or computer technology, and inability to afford postsecondary attendance.

Although students with psychiatric disabilities were not discussed specifically in Leake et al.'s (2006) study. It can be assumed that cultural background and ethnicity status also influenced the quality and quantity of social supports acquired on college campuses and on the social adjustment of these students.

Internalized stigma. Stereotypes are knowledge structures that people have learned about social groups in order to generate impressions and expectations toward individuals belonging to particular groups (e.g., gender, racial status). People who endorse negative stereotypes may act against minority groups (Corrigan & Penn, 1999).

Common stereotypes about individuals with psychiatric disabilities included dangerousness and social distance. Anger toward and avoidance of individuals with mental illness often results from the public view these individuals are responsible for their disorders and negative conditions. Fear of dangerousness has also been found to lead to discriminatory behavior (Corrigan & Watson, 2002a).

Professionals working with individuals with mental illness may also have similar negative attitudes. A study of prejudice about serious mental illness among graduate social work students indicated that students who believed in stereotypes of dangerousness of this population expressed more desire for both social distance and restrictions. In contrast, students who engaged in friendship with individuals with severe mental illness expressed less desire for social distance and restriction toward this population (Covarrubias & Han, 2011)

To diminish negative stereotypes, many researchers have made efforts in explaining the social and cognitive characteristics of prejudiced persons (Corrigan, Markowitz, & Watson, 2004). Findings from a policy analysis of stereotypes of mental illness suggested that to diminish stigma two kinds of policy should be addressed: (a) policies of private and public institutions that may intentionally restrict the opportunities of people with mental illness, and (b) policies of institutions that yield unintended consequences that hinder the options of people with mental illness (Corrigan et al., 2004).

Individuals with psychiatric disabilities may also perceive and further internalize the stereotypes. Among minority groups, perceived stigma was often associated with indicators of quality of life, such as life satisfaction. A study investigated the associations between perceived stigma and life satisfaction among urban African Americans living with HIV/AIDS; results indicated that perceived stigma accounted for 40% of the variance in life satisfaction after adjusting for sociodemographic variables. Personalized stigma and public attitudes often affect life satisfaction through negative self-image (Buseh, Kelber, Hewitt, Stevens, & Chang Gi, 2006). To explain causes and effects of self-stigmatizing attitudes, Corrigan et al. (2004) adopted a social-cognitive approach.

According to their models, causes of self-stigmatizing include public stigmatizing attitudes and structural discrimination whether intentional or not; effects of self-stigmatizing attitudes include loss of opportunities and aspirations, as well as public discriminatory behaviors. Corrigan et al. (2004) also suggested that scholars should investigate how macro and micro variables interact with the impacts of stigma among individuals with mental illness, for example, whether self-stigmatizing beliefs have a greater impact on individuals who live in residential homes located in a more disadvantaged neighborhood or in states with discriminatory laws.

In the present study, internalized stigma was utilized in order to address the psychological effects of stigma on the individual. According to Ritsher et al. (2003), internalized stigma was associated with the psychological effects of external stigma in the individual. Internalized stigma occurs when individuals internalize the objective discrimination and external stigma toward the minority group they belong to and believe that they are not viewed and treated equally as a member in the society. Understanding internalized stigma is crucial in explaining the psychological harm caused by stigma in society (Corrigan & Watson, 2002a). According to Ritsher and Phelan (2004), internalized stigma can be conceptualized as the side effect of mental health treatment, because such treatment may generate the label of mental illness and trigger the application of associated stereotypes. The five major constructs of internalized stigmas are alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance. As to the consequences of stigma on people with mental illness, it was found that the sense of alienation, which can be described as “the subjective experience of being less than a full member of society, or having a spoiled identity”, was positively

associated with deteriorations in depression and self-esteem among people with severe mental illness. There is evidence showing that experiences of rejection were negatively associated with sense of coherence, empowerment and self-esteem among individuals who have current or earlier contact with mental health services (Lundberg, Hansson, Wentz, & Bjorkman, 2009).

Buseh et al. (2006) suggested that practitioners should be aware of the impact of stigma on clients with whom they work and be resourceful in helping them by developing anti-stigma programs or support groups as well as cognitive restructuring. Ritsher and Phelan (2004) also indicated that strategies that might potentially promote interpersonal engagement are important in terms of lessening the psychological impact of stigma on individuals with mental illness. Internalized stigma may be lessened by psychoeducational group interventions (Lucksted et al., 2011; MacInnes & Lewis, 2008). An example is a 9-session intervention program called Ending Self-Stigma (ESS), developed and evaluated by Lucksted et al. (2011). The strategies offered to individuals with serious mental illness include understanding mental illness, responding to stigma, building personal supports, increasing belongingness in the community, and developing positive self-image. The intervention was found to be effective in decreasing negative generalizations about oneself, increasing social supports, and increasing recovery orientation.

Self-determination. Recently, there is also a growing interest in investigating self-determination among students with mental illness. The concept of self-determination was first developed by special educators and scholars to address the issues and

interventions for students with developmental disabilities in making transition to adulthood (Wehmeyer, 2007).

Many scholars have attempted to define self-determination. An early definition of self-determination addressed an individual's ability to choose and flexibility to accommodate when options were limited (Deci & Ryan, 1980). In other definitions, self-determination can refer to personal traits, skills, knowledge, and beliefs that enable individuals to perform autonomous and goal-oriented behaviors (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Wehmeyer, 1999). One example of these definitions is the functional model of self-determination (Wehmeyer, 1999). In this model, self-determination actions were defined by four characteristics: behavioral autonomy, self-regulation, psychological empowerment, and self-realization (Wehmeyer, 1999). According to Wehmeyer (1999), behavioral autonomy refers to individuals' actions in which they act according to their own preferences, interests, and abilities, and act independently, free from undue external influences or interference. Self-regulated behavior refers to individuals' skills and strategies in self-management, goal setting, problem solving, decision-making, and observational learning. Psychological empowerment is the inner sense of hopefulness often developed when individuals are able to use problem-solving skills and achieve perceived or actual control in their lives. Self-realization refers to individuals' capacity to use a comprehensive and reasonably accurate knowledge of themselves, including their strengths and limitations, and to act based on this knowledge.

In recent years, self-determination has been linked to the transformation of mental health systems and social environments (Cook & Jonikas, 2002). The University of

Illinois at Chicago National Research and Training Center Self-determination Knowledge Development Workgroup (UICNRTC, 2002) classified self-determination into three levels: (a) individual or internal self-determination/ recovery; (b) mental health programming services, and supports that foster self-determination; and (c) collective, social, or shared self-determination. The definition of self-determination by UICNTRC (2002) best captured the association between self-determination and services:

> Self-determination refers to the right of individuals to have full power over their own lives, regardless of presence of illness or disability. It encompasses concepts such as free will, civil rights, independence, self-direction, and individual responsibility. Self-determination in the mental health system refers to individuals' rights to direct their own services, to make the decisions concerning their health and well-being (with help from others of their choice, if desired), to be free from involuntary treatment, and to have meaningful leadership roles in the design, delivery, and evaluations of services and supports (p.1).

There is also some evidence indicated that for students with similar levels of self-determination, having a mental illness was not predictive of GPA. For students with mental illness, self-rated self-determination was predictive of GPA (Brockelman, 2009). In addition, the concept of self-determination has been applied to the transformation of services, community, and the larger society. Research found that critical indicators of self-determination can help students with disabilities effectively to secure needed supports and services. These skills include knowledge of one's disability and its impact on learning, problem solving, goal setting, self-management, self-advocacy, and conflict resolution skills (Anctil et al., 2008; Getzel & Thoma, 2008).

Self-determination encompasses many important issues in college students with disabilities, including several variables in this present study, such as internalized stigma, coping strategies, and social supports. An important goal of this study is also to investigate how these factors interact to predict college adaptation. Thus, although self-determination is a critically important construct in studying college students with disabilities, the level of self-determination will not be assessed in this study.

Coping Strategies for College Adaptation

Coping can be defined as "a response aimed at diminishing the physical, emotional, and psychological burden that is linked to stressful life events and daily hassles" (Snyder & Dinoff, 1999, p.5). The theories of coping were grown from the traditions of psychodynamic and cognitive psychology (Folkman & Lazarus, 1991). Psychodynamic models of coping emphasized the role of ego functions and the relationships of these functions to affect, while cognitive models of coping considered cognitive processes as intermediary between external stressors and emotional and behavioral responses (Radnitz & Tiersky, 2007).

Coping efforts can be viewed as moderators of psychological outcomes or mediators of existing conditions and psychological outcomes (Livneh & Wilson, 2003). In the past 40 years, the literature on coping with chronic illness and disabilities has grown vastly for several reasons. First, life expectancy has extended in industrialized countries, which increase the probability of people encountering chronic illness and disabilities. Second, researchers and practitioners have become interested in examining the effectiveness of available resources. Third, the emergence of the field of positive psychology during

1980s and 1990s also contributed to the growing interest in investigating adaptive coping (Livneh & Martz, 2007)

Perrez and Reicherts (1992) provided a useful way to understand the structure of coping by presenting a taxonomy of coping behaviors, including situation-oriented coping, representation-oriented coping, and evaluation-oriented coping. Situation-oriented coping involves seeking to modify internal or external stressors, including actively approaching the situation, evasion or withdrawal. Representation-oriented coping involves changing the cognitive representation of the stressor, including searching for information about the situation, or suppressing the information. Evaluation-oriented coping aims at altering goals and intentions. It includes changing personal goals associated with uncontrollable or unchangeable situations or re-evaluate the situation.

In general, coping strategies can be categorized into three types: problem- (or task-) oriented (focusing on external environment), emotion-focused (focusing on affective domain), and avoidance (Lazarus & Launier, 1978). Several studies have investigated the relationship between coping strategies and adjustment among college students with or without disabilities. Aspinwall and Taylor (1992) identified four major coping strategies utilized by college freshmen: active coping, avoidant coping, seeking support, and meaning. Among college freshmen, nonuse of avoidance coping, greater use of active coping, and greater seeking social support mediated the relationship between optimism, control, and self-esteem. Livneh and Wilson (2003) found that use of coping strategies, especially problem-focused coping, resulted in higher scores on life satisfaction and disability-specific psychosocial adjustment among college students with disabilities.

Problem-focused coping was found to be most powerful among the three types of coping strategies (problem-focused, disengagement, and emotion focused). Emotion-focused coping, though less powerful, was also positively related to life satisfaction and psychosocial adjustment. Individuals who utilized emotion-focused coping strategy addressed initiating and maintaining open communication with others as well as sharing experiences and reactions to the stressful situations.

A study by Collins, Mowbray, and Bybee (1999) is particularly relevant to the present study. The researchers measured the coping strategies of individuals participating in a supported education program setting and the relationship between coping strategies and later outcomes. Coping strategies were identified through a series of vignettes related to stressful situations in college (e.g. Imagine that you are in a classroom and you begin to get anxious or upset, what would you do?). Emotional responses were the least frequent coping strategies and problem-solving strategies were the most frequent strategies. Specific problem-solving strategies were found to have a significant positive effect on both social support (β=.19, p<.01) and school efficacy (β=.15, p<.01) at 12-month follow-up. Emotional coping had a positive effect on social adjustment problems (β=.17, p<.01), indicating that emotional coping led to more social adjustment problems.

Linking Concepts and Gaps in Current Research

Internalized stigma, social supports, and coping strategies are crucial factors in predicting college adaptation among this population. More information about these phenomena would be helpful.

A numbers of studies have documented the negative relationships between internalized stigma and college adaptation (Blacklock et al., 2003; Megivern et al., 2003; Weiner & Wiener, 1996). Stigma was recognized as the major barrier for students with psychiatric disabilities on college campuses. Fear of being stigmatized and negative experience of being stereotyped for mental illness often discouraged the students who need psychological supports and academic accommodations from seeking mental health and disability services on campuses as well as disclosing their disabilities to peers and faculty. Yet there is lack of evidence indicating which area of college adaptation was affected by internalized stigma.

Factors that can mediate or moderate the relationships between internalized stigma and psychosocial outcomes are often of interest to scholars. Can the negative impacts of stereotype and stigma be eliminated by getting more social supports or applying different coping strategies? Link, Mirotznik, and Cullen (1991) examined different stigma coping approaches regarding effects on employment and psychological distress among mental health patients. Their findings indicated that individuals with psychiatric disabilities are not able to decrease negative labeling effects by not disclosing, educating others about their conditions, or avoiding situations in which rejection might occur, suggesting that the negative effects of stigma were not easily overcome by the coping actions of individuals. In another study by Yanos, Roe, Markus, and Lysaker (2008), internalized stigma was also found to be positively associated with avoidant coping and active social avoidance and depressive symptoms. Mickelson (2001) integrated studies on the relationship between perceived stigma and social supports and found that there is often a negative association between these two variables. Individuals with greater perceived stigma

reported more negative interactions with others, more perceived and actual restrictions in social activities, and were more likely to depend solely on their household for supports.

However, no attempts have been made to integrate these issues in examining college adaptation among students with psychiatric disabilities. There is also a lack of information on how coping strategies may moderate or mediate the relationship of internalized stigma and college adaptation. Another question is the role of social supports (e.g. family) and disability-related supports (e.g. Disability Supports Services) on college adaptation for these students. Do social supports and disability-related supports play a role in college adaptation? Do these support systems mediate or moderate the impacts of internalized stigma on college adaptation? Using the ICF as a framework to integrate factors that are important in affecting college functioning and adaptation in college, this exploratory study will examine the interaction of personal factor such as internalized stigma and environmental factors such as social supports, and skills such as coping strategies on the college adaptation among students with psychiatric disabilities.

Chapter 3: Methods

Sample

Participants in the study were undergraduate students who had been treated for or had been diagnosed with a serious mental health condition and who self-reported that their diagnosed mental health condition substantially limited at least one or more major life activities (e.g. sleeping, eating, concentrating, social interactions, learning…etc.). Students with episodic mental health conditions, such as major depression, bipolar disorder, or schizophrenia, were eligible for this study even when their symptoms ere not active at the time of survey. Participants were at least 18 years old and had completed at least one semester in the postsecondary institution they attended at the time they completed the survey.

With an estimated squared multiple correlation .20 for the prediction of college adaptation by predictors examined in the present research, estimated squared inter-correlations among the predictor variables ranging from .30 to .50, and sample size 300, standard error of standardized partial regression coefficients is between .063 to .074. Thus, this study aims at recruiting 300 participants. The final sample included in the analyses was 292. According to the American National College Health Assessment (2012), around 15.6 % of college students reported being diagnosed with either anxiety, depression, or both. A total of 20, 595 students at the university received the recruitment letters for they have completed at least one semester. Potential participants is estimated as 3,212 and response rate for the current study is about 9%.

Instruments

The following instruments were selected to assess the predictor variables and the criterion variable. The predictor variables include demographic variables, perceived social supports, disability-related supports, internalized stigma, and coping strategies. The criterion variable is college adaptation.

Demographic Form. A demographic form was developed to screen participants and gather information on ethnicity, gender, current age, type of mental health condition, level of functional limitations in major life activities, age of onset (i.e., age at which they were diagnosed with mental health problems). The participants were also asked to provide information about the type of postsecondary educational institution they currently attend, the number of semesters they have been enrolled, the number of credits they completed at the time of the survey, overall GPA, and use of on- and off- campus services (Refer to Appendix A). A list of major life activities included in the demographic form was adapted from the Certification of Psychological Disability Form, developed by Disabled Students' Program at University of California, Berkeley (Disabled Students' Program at University of California, Berkeley, 2012).

Internalized Stigma. The variable of internalized stigma will be assessed by ISMIS developed by Ritsher et al. (2003). The original scale contains 29 items that measure five dimensions of internalized stigma: Alienation (6 items), Stereotype Endorsement (7 items), Discrimination Experience (5 items), Social Withdrawal (6 items), and Stigma Resistance (5 items). Each statement is rated on a four-point Likert scale from "strongly disagree" (1) to "strongly agree" (4). The ISMIS had positive correlations with measures of stigma beliefs and depressive symptoms and had negative correlations with measures of self-esteem, empowerment, and recovery orientation among mental health

outpatients (Ritsher et al., 2003). The ISMIS also demonstrated high internal consistency reliability coefficient of alpha = 0.90 and test-retest reliability coefficient (*r*= 0.92).

In this study, a 10-item version of ISMIS (ISMIS-10) was used to measure the construct of internalized stigma of mental illness because of the need to reduce items. The high internal consistency reliability coefficient of alpha provides confidence of sustaining the high validity. An example of the 10 items is, "because I have a mental illness, I need others to make decisions for me." (Refer to Appendix B)

Social Supports. The variable of social supports is assessed by the MSPSS developed by Zimet et al. (1988). The MSPSS measures three sources of social supports: family (4 items), friends (4 items), and significant others (4 items). Each of the 12 items is a statement rated on a seven-point Likert scale ranging from very strongly disagree (1) to very strongly agree (7). An example of the items is "There is a special person who is around when I am in need." (See Appendix C)

The MSPSS demonstrated good internal consistency for a sample of 275 college students (Cronbach's Alpha coefficient =.88) and adequate test-retest reliability (r =0.85). The three subscales of MSPSS were also found to have high internal consistency and test-retest reliability: the Significant Other, 0.91, 0.72; Family, 0.87, 0.85; Friends: 0.85, 0.75. The three-factor model of MSPSS was confirmed by Clara, Cox, Enns, Murray, and Torgrudc (2003) among college students (N=549) and psychiatric outpatients (N=156). The three-factor model and a single higher order domain social support were supported in both samples.

Coping Strategies. The coping strategies variable was measured by 11 subscales of Brief COPE inventory by Carver (1997), including self-distraction, active coping, use of

emotional supports, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, acceptance, denial, and self-blame. Previous studies indicated a three-factor structure of these subscales. Two subscales in the original Brief Cope, including humor and religion are not selected in this study because they often load on distinct factors (Snell et al., 2010, Welbourne et al., 2007).

Each subscale contains two items endorsed on a 4-point scale, ranging from "I usually do not do this at all" (1) to "I usually do this a lot" (4). An example of the items is: "I've been taking action to try to make the situation better." The 11 subscales selected in this study contain 22 items. Cronbach's Alpha reliabilities for the 11 subscales ranged from .50 to .71 (Refer to Appendix D).

College Adaptation. College adaptation was measured by Student Adaptation to College Questionnaire (SACQ) developed by Baker and Siryk's (1984, 1989). SACQ is a 67-item self-report instrument measuring four types of adjustment to college lives: academic, social, personal-emotional, and institutional attachment. Participates rated the items on a nine-point Likert-Type scale from 1 (applies very closely to me) to 9 (doesn't apply to me at all). Baker and Siryk (1999) reported Cronbach's alpha coefficient ranging from .77 through .95. The SACQ scores correlate with overall satisfaction with the college experience, personality characteristics, mental health characteristics, and environment-related activities.

Procedure

Participants were recruited from a large mid-Atlantic state university. The registrar's office was contacted in order to get a listserv email address which could reach all undergraduate students who had completed at least one semester at the University. The

recruitment letter (Refer to Appendix E) was sent to all undergraduate students. The recruitment letter was also sent out to students with psychiatric disabilities who registered with disability services office via the disability service listserv. The recruitment letter was sent out to students as a reminder two weeks later.

On the survey website, first the participants were presented the informed consent which explained the nature of the study and assured the confidentiality of the survey (refer to Appendix F). Once the participants agreed with the informed consent, they were directed to a series of survey instruments. The order of the instruments were demographic forms, college adaptation, social supports, coping strategies, and internalized stigma. Estimated time to accomplish the whole survey was 20-30 minutes.

Upon completing and leaving the survey, the participants were presented a choice message to be entered a drawing for a gift certificate to Amazon.com. Participants who were interested in being entered the drawing were directed to another survey website to enter their email addresses and their contact information did not link to their responses. The online survey was accessible until the targeted sample size was reached. Winners were picked up randomly from the drawing, including one $200 winner and ten $20 winners. Gift card certificate codes were sent out to the winners after the raffle drawing. All identifying participant information were destroyed (i.e., email address) after the raffle winners were notified.

Data Analyses

The software SPSS version 19.0 was utilized to perform the following analyses. First, descriptive statistics were conducted on each variable in order to determine the means, standard deviations, normality, and outliers. Second, factor analyses were

conducted on the Brief COPE Inventory in order to extract high-ordered coping factors. These factors were used in regression analyses. Third, correlational analyses were performed in order to determine the correlations among variables. Forth, a series of hierarchical multiple regression analyses were conducted to determine the contribution of predictive variables on the criterion variable. In the first model, control variables entered included gender, minority status, type of mental illness, and level of functional limitation. The variable of internalized stigma of mental illness was entered in the second model. In the third model, three social supports variable were added. Coping strategies was added in the last model.

Chapter 4: Results

The purpose of this study is to examine the relationship between internalized stigma of mental illness, perceived social supports, coping strategies, and college adaptation among college students with psychiatric disabilities. This chapter consists of four sections. In the first section, the information on participants is presented. In the second section, the treatment of missing data and the internal consistency of measures, as well as the results of the factor analysis of coping strategies, are reported. In the third section, relationships among key variables are examined. The last section presents the results of multiple regression models which examine contribution of factors on college adaptation.

Profile of Participants

A total of 387 respondents completed the entire survey. The dataset was downloaded from the SurveyMonkey site and recoded from the default categorical labels to a numerical system for the Likert-type measures. Descriptive analyses were conducted for all variables in order to inspect any missing data, miscoded data, and data points out of range. Three section criteria were used to screen eligible participants: had a mental illness and reported at least one substantial interference in major life activities, had an episodic mental illness, or registered with disability support services. Participants who fulfilled at least one were selected and 292 persons were qualified for the study.

Results of descriptive analyses (see Table 1) indicated that the average age of the participants was 22-years-old with an age range between 18 and 61 (*SD*= 4.29). Ninety percent of participants were between ages 18 and 24. Around 28.1 % of the 292 participants were male (*n*=82), and 72.6 % were female (*n*=209), with one person self-identified as transgendered (the participant did not specify which direction). Most of

participants reported being full-time students (88.7%, *n*=259) with the rest being part-time (11.3%, *n*=33). Students reported completing an average of 5 semesters (*SD*= 2.6) at the current institution, earned an average of 83 credits (*SD*= 30.3), with an average GPA of 3.2 (*SD*= 0.60). Participants reported ethnic backgrounds as follows: Caucasian American (70.2%, *n* = 205), Asian American (11.3%, *n* = 33), African-American (6.2%, *n* = 18), and Hispanic American (2.1%, *n* = 6). Another 2.1% reported "other" for race/ethnicity (*n* = 6), and 8.2% were multiracial/biracial (*n* = 24).

In terms of mental health conditions, the original questions in the survey asked the participants to select from Schizophrenia, Schizoaffective disorder, bipolar, major depression, borderline personality disorder, anxiety disorder, and other. By applying the categorical system of the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV), this variable was recoded into four groups (mood disorder "1," anxiety disorder "2," mood and anxiety mixed disorder "3," and others "4".) There are several reasons for this re-categorization. First, 98% participants reported having either mood (bipolar, depression) or anxiety disorder, or both. Thus, it is reasonable to use these two diagnoses as the major categories. Second, some participants selected "others" in this question but actually the diagnosis that they specified fell into the category of mood or anxiety disorder under DSM-IV, such as post-traumatic stress disorder (under "anxiety disorder"). Using the DSM-IV categorical system was helpful in terms of grouping these cases in a more reasonable way. For this study, the most commonly reported diagnosis are anxiety disorder (35.3%, *n*=103), following by mood disorder (34.9%, *n*=102), mood and anxiety mixed disorder (27.7 %, *n*=81), and others (2.1%, *n*=6).

Table 1
Demographics of Participants

Variable	*N*	*%*	*Mean*	*Standard Deviation*
Age			22	4.29
Gender				
Male	72	28.1		
Female	183	71.6		
Other	1	0.3		
Race				
Caucasian American	205	70.2		
African American	18	6.2		
Hispanic American	6	2.1		
Asian American	33	11.3		
Bi-/Multiracial	24	8.2		
Other	6	2.1		
Class status				
Full-Time	259	88.7		
Part-Time	33	11.3		
Semesters Completed			5	2.6
Credits Earned			83	30.3
GPA			3.2	0.6
Mental Health Conditions				
Mood Disorder	102	34.9		
Anxiety Disorder	103	35.3		
Mood and Anxiety Mixed Disorder	81	27.7		
Other	6	2.1		
Level of Functional Limitations				
Concentrating			2.41	7.88
Memory			1.47	1.05
Sleeping			2.28	.92
Eating			1.88	1.09
Social Interactions			2.42	.81
Self-care			1.82	1.06
Learning			1.89	.96
Working			1.75	1.03

Functional limitations of participants were assessed by asking them to report the level of interference (0=Not at all, 1=A Little Bit, 2= A Moderate Amount, 3= A Substantial Amount) that mental illness impacted on eight major life activities, including concentrating, memory, sleeping, eating, social interactions, self-care, learning, and working. The interference score was the average of interference on the above life domains. In this study, this item also serves as a selection criteria. Only participants who reported having at least one substantial limitation in this item were included in the analyses. For the current sample, the most frequently reported limitation at substantial level is social interactions (60%, *n*=174), concentration (57%, *n*=167), and sleeping (54%, *n*=158).

Of 292 participants, only 18% (*n*=53) reported having registered with disability supports services. Those who did not register with disability support services reported their reasons: 119 persons did not think they had a disability (41%), 88 persons reported that they can manage without DSS (30%), 38 persons did not want others to know their mental health conditions (13%), 51 persons did not know DSS was available to them (18%), 84 persons did not think they were eligible for DSS (29%), and 5 persons reported using other services (2%).

Treatment of Missing Data and Properties of Measures

Missing data occur in almost all research and can produce biased statistical results, if not dealt with appropriately. Thus, before performing any statistical analyses, a series of missing data analyses were conducted to examine the nature and scope of the missing data. For all the instrument items (ISMIS-10, MSPSS, Brief COPE, SACQ), the cases were recoded into two groups as either “missing” or “not missing.” Chi-Square tests were

performed to examine whether the missing data was independent of key demographic variables (i.e., race and gender). The results show that none of the chi-square tests was statistically significant.

There are various approaches to handle missing data, including deletion of cases. However, given the small sample size in the current study, the loss of cases may lead to loss in statistical power. This study used the Expectation-Maximization (EM) algorithm function in SPSS 19.0 to generate the maximum likelihood estimators for the missing data. The imputations were performed for each instrument separately.

A factor analysis was conducted for one of the set of independent variables in the study, coping strategy. In this study, the coping strategy was assessed by 12 subscales selected from the Brief COPE (originally contained 14 subscales). The author of the Brief COPE suggested that researchers conduct factor analysis to get higher-order constructs of coping strategies for their particular sample (Carver, 1997). Thus, the factor structure of the measure Brief COPE was examined by the current sample. The analysis was performed by using principle component analysis. Using the eigenvalues over 1 criterion, seven factors were extracted. The first factor explained 22% of the variance, the second factor 13% of the variance, the third and the forth factor 7% of the variance, and the fifth explained 6% of the variance. The sixth and the seventh factors had eigen values of just over one, each factor explaining 4%. After Varimax rotation procedure, the first factor explained 15% of the variance, the second factor 12% of the variance, the third factor 9% of the variance, the fourth explained 9% of the variance, and the fifth explained 7% of the variance. The sixth and the seventh factor explained 6% of the variance. The 7 factors accounted for 64% of the explained variance. No cross loadings occur for the 7-factor

solution. Four factors out of the seven factors contain only 2 items. However, this result corresponds with the original Brief COPE instrument and it is easy to interpret. These seven factors are seeking support, avoidant coping, positive coping, self-blame, substance abuse, self-distraction, and venting (See Table 2 for details). The score of each coping strategy factor was calculated by adding up the scores of items of the same factor and dividing the sum score by the number of items contained in the same factor.

For all the measures in this study, descriptive analysis and internal consistency analysis were performed (see Table 3 for details). The outcome variable was student adaptation to college using the Student Adaptation to College Questionnaire (SACQ) which is comprised of four subscales: academic adjustment, personal-emotional, social adjustment, and attachment to institution. Instruments used to assess the dependent variables included a 10-item brief version of the Internalized Stigma of Mental Illness Scale (ISMIS-10), for internalized stigma, and three subscales of MPSSS (Multidimensional Perceived Social Support Scale) to measure perceived social supports from family, friends, and the significant others, and the Brief COPE instrument measuring coping strategies.

Table 2

Brief COPE Items and Factors Loadings.

Factor and Items	*1*	*2*	*3*	*4*	*5*	*6*	*7*
Factor 1. Positive Coping (α=.79)							
I've been concentrating my efforts on doing something about the situation I'm in.	**.665**	.233	.163	-.142	.137	-.260	-.069
I've been taking action to try to make the situation better.	**.673**	.260	.029	-.209	-.098	-.033	-.095
I've been trying to see it in a different light, to make it seem more positive.	**.526**	.140	-.043	.122	-.426	.104	.156
I've been trying to come up with a strategy about what to do.	**.675**	.158	-.087	-.206	.030	.118	.082
I've been looking for something good in what is happening.	**.560**	.098	-.043	.067	-.398	.281	.118
I've been accepting the reality of the fact that it has happened.	**.554**	.028	-.310	.256	.078	.252	.077
I've been learning to live with it.	**.573**	.065	-.283	.262	.008	.013	.069
I've been thinking hard about what steps to take.	**.777**	.156	-.059	-.063	.030	.046	.002
Factor 2. Seeking Support (α=.85)							
I've been getting emotional support from others.	.099	**.838**	-.066	-.012	-.051	.005	.028
I've been getting help and advice from other people.	.224	**.814**	.013	-.006	-.126	.140	-.028
I've been getting comfort and understanding from someone.	.216	**.774**	-.144	.005	-.088	-.019	.104
I've been trying to get advice or help from other people about what to do.	.224	**.723**	-.101	-.075	.047	.297	-.052
Factor 3. Avoidant Coping (α=.73)							
I've been saying to myself "this isn't real."	-.049	.037	**.714**	.212	.016	.029	.059
I've been giving up trying to deal with it.	-.266	-.211	**.462**	.190	.320	.070	.327
I've been refusing to believe that it has happened.	-.067	-.168	**.810**	.031	.016	.120	-.033
I've been giving up the attempt to cope.	-.100	-.161	**.534**	.284	.279	-.088	.198
Factor 4. Substance Abuse (α=.94)							
I've been using alcohol or other drugs to make myself feel better.	-.083	-.054	.199	**.893**	.083	.060	-.006
I've been using alcohol or other drugs to help me get through it.	-.036	-.004	.226	**.896**	.107	.077	.018
Factor 5. Self-Blame (α=.68)							
I've been criticizing myself.	.013	-.045	-.098	.181	**.737**	.176	.254
I've been blaming myself for things that happened.	.052	-.072	.251	.073	**.763**	.054	.066
Factor 6. Venting (α=.45)							
I've been saying things to let my unpleasant feelings escape.	-.020	.069	.364	.206	.013	**.671**	.109
I've been expressing my negative feelings.	.189	.274	-.066	-.030	.147	**.703**	-.018
Factor 7. Self-Distraction (α=.50)							
I've been turning to work or other activities to take my mind off things.	.163	.066	.145	-.015	.048	-.180	**.774**
I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	-.017	.010	.007	.020	.158	.283	**.740**

Table 3

Descriptive Statistics for Key Variables

	Mean	*SD*	*A*
SACQ: Academic Adjustment	5.84	1.23	.88
SACQ: Personal-emotional Adjustment	4.71	1.41	.85
SACQ: Social Adjustment	5.49	1.55	.90
SACQ: Attachment to the Institution	6.48	1.37	.86
ISMI	1.86	.48	.79
MPSSS: Family	4.84	1.75	.91
MPSSS: Friends	5.03	1.59	.94
MPSSS: Significant Others	5.21	1.87	.96
COPE: Positive Coping	2.85	.60	.79
COPE: Seeking Support	2.67	.83	.85
COPE: Avoidant Coping	1.70	.64	.73
COPE: Substance Abuse	1.82	.93	.94
COPE: Self-blame	2.80	.87	.68
COPE: Venting	2.24	.75	.45
COPE: Self-distraction	3.00	.75	.50

Relationships between Key Variables

The correlations between key independent variables are presented in Table 4. The results indicated that internalized stigma of mental illness had medium to strong negative relationships with social support variables (r equal to or higher than .39), especially support from friends (r=-.50, p< .01). Internalized stigma of mental illness also revealed significant associations with five out of seven coping strategies, including positive coping, seeking support, avoidant coping, substance abuse, and self-blame (p< .01). Not surprisingly, the three social support variables had strong relationships with the seeking support coping strategy (r equal to or greater than .46), particularly friends support (r=.56, p< .01). Other coping strategies, such as positive coping, avoidant coping, and self-blame, also revealed to have low to medium association with social support variables.

Bivariate correlations between college adaptation and key independent variables were presented in Table 5. The results indicated internalized stigma of mental illness was negatively associated with college adaptation at medium to high level. The highest correlation was found between internalized stigma and social adjustment (r= -.54, p <.01). The results also indicated that all of the three dimensions of social supports had positive associations with the four college adaptation variables (r equal to or higher than .20).

Particularly, friends support had high correlations with social adjustment (r= .61, p < .01) and attachment to institution (r= .48, p< .01). In terms of coping strategies and college adaptation, 24 out of the 28 correlations were significant. The relationships between college adaptation and seeking supports, avoidant coping, and self-blame, were especially salient. Seeking support coping strategy has medium to strong positive association with social adjustment and attachment (r=.39, r=.38, p <.01, respectively). Avoidant coping revealed strong negative relationship with personal-emotional adjustment (r =-.48, p<.01). Self-blame coping also had a strong negative relationship with personal-emotional adjustment (r=-.49, p <.01), and medium to strong negative relationship with social adjustment and attachment (r=-.38, r=-.34, p <.01, respectively).

Table 4

Bivariate Correlations for Key Independent Variables

	ISMIS	MPSSS: Family	MPSSS: Friends	MPSSS: Significant Others	COPE: Positive Coping	COPE: Seeking Support	COPE: Avoidant Coping	COPE: Substance Abuse	COPE: Self-blame	COPE: Venting	COPE: Self-distraction
ISMIS	1.00										
MPSSS: Family	-.43	1.00									
MPSSS: Friends	-.50	.43	1.00								
MPSSS: Significant Others	-.39	.43	.58	1.00							
COPE: Positive Coping	-.24	.19	.23	.22	1.00						
COPE: Seeking Support	-.36	.36	.49	.56	.46	1.00					
COPE: Avoidant Coping	.46	-.31	-.22	-.23	-.28	-.25	1.00				
COPE: Substance Abuse	.23	-.14	-.11	-.17	-.09	-.11	.39	1.00			
COPE: Self-blame	.31	-.28	-.25	-.17	-.06	-.10	.31	.21	1.00		
COPE: Venting	.09	-.05	.04	.04	.18	.28	.15	.23	.18	1.00	
COPE: Self-distraction	.09	-.12	.00	-.04	.12	.05	.20	.10	.24	.20	1.00

Note. Correlations larger in absolute value than .12 are significant at the .05 level.

Correlations larger in absolute value than .14 are significant at the .01 level.

Table 5

Correlations between College Adaptation and Key Independent Variables.

	SACQ: Academic Adjustment	SACQ: Personal-emotional Adjustment	SACQ: Social Adjustment	SACQ: Attachment to the Institution
SACQ: Academic Adjustment	1			
SACQ: Personal-emotional Adjustment	.60	1		
SACQ: Social Adjustment	.51	.47	1	
SACQ: Attachment to the Institution	.64	.46	.87	1
ISMI	-.39	-.45	-.54	-.53
MPSSS: Family	.33	.30	.38	.36
MPSSS: Friends	.29	.23	.61	.48
MPSSS: Significant Others	.24	.20	.39	.35
COPE: Positive Coping	.19	.24	.18	.17
COPE: Seeking Support	.28	.21	.39	.38
COPE: Avoidant Coping	-.34	-.48	-.22	-.28
COPE: Substance Abuse	-.25	-.31	-.09	-.18
COPE: Self-blame	-.29	-.49	-.38	-.34
COPE: Venting	-.20	-.22	-.13	-.16
COPE: Self-distraction	-.21	-.28	-.08	-.11

Note. Correlations larger in absolute value than .13 are significant at the .05 level.
Correlations larger in absolute value than .16 are significant at the .01 level.

Hierarchical Regression Analysis

Hierarchical regression models were utilized in this study to assess the contribution of key factors on college adaptation. The independent variables were internalized stigma of mental illness (ISMIS-10), the three dimensions of social support (MSPSS: family, friends, and significant others), seven coping strategies (Brief COPE), as well as selected demographic variables. The dependent variable, adaptation to college, as measured by the four subscales of the Student Adaptation to College Questionnaire (SACQ – academic adjustment, social adjustment, personal-emotional adjustment, and attachment to institution).

In preparation for the multiple regression analyses, key independent variables and the dependent variable were assessed for conditions and assumptions for multiple regression analyses.

To meet assumptions for significance tests associated with the regression models, the dependent variable must meet the assumption of normal distribution. The researcher did visual inspection of the histogram, P-P plots (probability–probability plot or percent–percent plot), and Q-Q plots ("Q" stands for quantile) of the four college adaptation variables. The histogram and both plots suggested that the four college adaptation variables are close to normal distribution. The skewness and kurtoisis values were examined for the college adaptation variables. For these variables, skewness and kurtosis levels were less than 2.5 times the standard error for the distribution except for the attachment variable. The Z score of skewness of attachment is 2.7, which is close to the standard of 2.5.

Multicollinearity was also examined for the independent variables by conducting analyses of bivariate correlations and collinearity statistics variance inflation (VIF) and tolerance. Problems produced by multicollinearity are likely if the numerical value of VIF is larger than larger than 10. For the independent variables in this study, all VIFs fell under the number of 2, indicating that problems due to multicollinearity were unlikely to occur.

The relationships between potential control variables and college adaptation were also examined in order to determine what variables to enter into the regression models. Examined variables in this study include age, semester completed, credits earned, gender, minority status, and type of mental illness condition. Three variables, age, semesters completed, and credits earned, did not show significant associations with any of the subscales of college adaptation. Results of *t*-tests indicated that there is a gender difference in social adjustment and attachment [$t(289)= -2.25$, $t(289)= -3.00$, $p<.05$, respectively]. Female students in this study have better social adjustment and attachment than male students. In terms of minority status, Caucasian American students reported higher scores in academic adjustment, social adjustment, and attachment, compared to minority students [t (290)=3.22, t (290)=2.07, t (290)=2.70, p <.05, respectively.] Results of F tests indicated that students having different types of mental health conditions (i.e., mood disorder, anxiety disorder, or mood and anxiety mixed disorder) also scored differently in academic adjustment, personal-emotional adjustment, social adjustment, and attachment: F (2, 283)=6.99, $p<.01$; F (2,283)=6.89, $p<.01$; F (2,283)=6.81, p <.01, F (2,283)=5.89, p <.01. Six students who reported neither mood disorder nor anxiety disorder and one student who reported being transgendered did not enter into the

regression analysis because the cell size is too small (*n*=6, n=1, respectively), leaving 285 cases in the regression models.

Hierarchical regression analyses were performed to determine the contributions of a set of independent variables to the dependent variable. In this study, four models were applied to the data. The first block in the model was demographic variables, including gender, minority status, and type of disorder. The variable of internalized stigma of mental illness was then entered in the second block. The third block included the three social support variables: family, friends, and significant others. In the forth block, use of different coping strategies were entered. For each step, the relationship of the predictors and the outcome variable (four subscales of SACQ: academic adjustment, emotional adjustment, social adjustment, and attachment to the institution) was examined and the contribution to the variance explained on the outcome variable was observed.

Academic Adjustment. The results of the hierarchical model for the subscale of SACQ, academic adjustment, are summarized in Table 6. In Model One, demographic variables, including minority status, gender, type of mental disorder, and level of functional limitations accounted for approximately 13% of the variance of academic adjustment. Internalized stigma of mental illness accounted for a significant proportion of the academic adjustment variance after controlling for the effects of demographic variables, R^2 change = .10, p<.001. In the third model, the social support variables increased the variance significantly, R^2 change = .03, p<.05. For the three types of social support, only family supports achieved statistically significance (β=.17, p<.01). Model 4 yielded an R square of .35 and an R^2 change of .09 (p<.001), indicating that use of coping strategies contributes significantly to predicting academic adjustment. Three coping

strategies significantly that significantly contribute to the variance in academic adjustment are: seeking support (β=.17, p<.05), venting (β=-.14, p<.05), and self-distraction (β=-.14, p<.01).

Personal-emotional adjustment. Table 7 summarizes the results of the hierarchical model for the personal-emotional adjustment. In the first model, minority status, gender, type of mental disorder, and level of functional limitations accounted for approximately 14% of the variance of personal-emotional adjustment (R^2=.14, p<.001). For the second model, the inclusion of internal stigma of mental illness resulted in an additional 17% of the variance being explained (p<.001). In the third model, three social supports variables were added. The R^2 change in the third model did not achieve statistical significance, though the family support variable still reached significance at a .05 level (β=.13). Adding the coping strategies in the final model yielded another 21% variance being explained (p<.001). Four of seven coping strategies which reached significance were positive coping (β=.16, p<.01), avoidant coping (β= -.18, p<.01), self-blame (β= -.27, p<.001), and self-distraction (β= -.14, p<.01).

Table 6

Regression of Academic Adjustment on Demographic Characteristics, Internalized Stigma of Mental Illness, Social Supports, and Coping Strategies. (n=285)

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Demographic characteristics												
Female	.27	.16	.10	.16	.15	.06	.19	.15	.07	.11	.14	.04
Minority Status	-.39	.15	-.15*	-.31	.14	-.12*	-.21	.15	-.08	-.24	.14	-.09
Mood Disorder	.24	.18	.10	.13	.17	.05	.18	.17	.07	.14	.16	.05
Anxiety Disorder	.44	.19	.17	.28	.18	.11	.24	.17	.09	.17	.17	.07
Functional Limitation Level	-.60	.16	-.23***	-.50	.15	-.19**	-.51	.15	-.19**	-.47	.14	-.18*
ISMIS				-.88	.14	-.34***	-.61	.16	-.24**	-.34	.17	-.13
Social Supports												
MPSSS-Family							.12	.04	.17**	.08	.04	.11
MPSSS-Friends							.05	.05	.07	.05	.05	.07
MPSSS-Significant Others							.00	.04	.00	-.05	.04	-.07
Brief COPE												
Positive Coping										.17	.12	.08
Seeking Support										.25	.10	.17*
Avoidant Coping										-.18	.12	-.10
Substance Abuse										-.07	.07	-.05
Self-blame										-.05	.08	-.03
Venting										-.23	.09	-.14*
Self-distraction										-.23	.09	-.14*
R^2		.13***			.23***			.26***			.35***	
R^2 *change*					.10**			..03**			.09***	

Note. *p<.05; ** p <.01; *** p <.001

Table 7

Regression of Personal-Emotional Adjustment on Demographic Characteristics, Internalized Stigma of Mental Illness, Social Supports, and Coping Strategies. (n=285)

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Demographic characteristics												
Female	-.04	.18	-.01	-.20	.16	-.06	-.16	.16	-.05	-.31	.14	-.10*
Minority Status	-.01	-17	.00***	.10	.16	.03	.19	.16	.06	.17	.14	.05
Mood Disorder	.39	.20	.13	.23	.18	.08	.17	.18	.09	.12	.16	.04
Anxiety Disorder	.35	.21	.12	.13	.19	.04	.10	.19	.03	-.08	.17	-.03
Functional Limitation Level	-.96	.18	-.32***	-.82	.16	-.27	-.82	.16	-.27***	-.72	.14	-.24***
ISMIS				-1.25	.15	-.42***	-1.10	.18	-.37***	-.56	.16	-.19**
Social Supports												
MPSSS-Family							.11	.05	.13*	.02	.04	.02
MPSSS-Friends							-.03	.06	-.03	-.04	.05	-.04
MPSSS-Significant Others							.03	.05	.03	.00	.04	.00
Brief COPE												
Positive Coping										.36	.12	.15**
Seeking Support										.12	.10	.07
Avoidant Coping										-.40	.12	-.18*
Substance Abuse										-.11	.07	-.07
Self-blame										-.44	.08	-.27***
Venting										-.16	.09	-.09
Self-distraction										-.26	.09	-.14**
R^2		.14***			.31***			.32***			.53***	
R^2 *change*					.17***			.01			.21***	

Note. *p<.05; ** p <.01; *** p <.00

Social Adjustment. Table 8 presents the results of the hierarchical regression model of social adjustment. The demographic variables (i.e., minority status, gender, type of mental disorder, and level of functional limitations) were entered in Model 1 and significantly predicted social adjustment (R^2=.10, p< .001). Female students reported better social adjustment than males (β= .17, p<.01). Compared to students having both mood and anxiety disorders, only those who reported having

anxiety disorder scored higher in social adjustment (β= .22, p<.01). In Model 2, the addition of internalized stigma increased 24% of the variance being explained. The inclusion of social supports variables in Model 3 further increased the R square value to .50 (ΔR^2=.16, p<.001). The variable of friends' supports is the only significant predictor for social adjustment among the three social support variables (β=.44, p<.001). The coping strategies variables added to the final model increased another 5% variance being explained (p< .001). Significant coping strategy predictors are seeking supports (β=.15, p<.05), self-blame (β=-.17, p< .01), and venting (β=-.16, p< .01).

Attachment to the Institution. The results of the hierarchical regression model of attachment to the institution are presented in Table 9. Demographic information, including gender, minority status, mental health conditions, and level of functional limitations, were entered in the first model and accounted for 12% of the variance in attachment to the institution(p<.001). In the second model, internalized stigma of mental illness was added and increased the variance explained to 34% (ΔR^2=.22, p <.001). The social supports variables were added in the third model and resulted in an additional 6% of the variance being explained (p <.001). Similar to the model of social adjustment, friend supports is the only significant social support variable which predicts attachment to the institution (β=.24, p < .01). In the last model, the addition of the coping strategies variable increased 5% of the variance being explained and resulted in significant change (p < .01). The full model explained for 45% of the variance in attachment to the institution. Among all the variables entered in the final model, the seeking supports coping strategy revealed to have the strongest effect on attachment to the institution (β=.22, p < .01), followed by venting (β= -.17, p < .01), and self-blame (β=-.11, p < .05).

Table 8

Regression of Social Adjustment on Demographic Characteristics, Internalized Stigma of Mental Illness, Social Supports, and Coping Strategies. (n=285)

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	*SE B*	*β*	*B*	*SE B*	*B*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Demographic characteristics												
Female	.58	.20	.17**	.38	.17	.11*	.29	.15	.08	.28	.15	.08
Minority Status	-.30	.20	-.09	-.15	.17	-.05	.01	.15	.00	.01	.15	.00
Mood Disorder	.41	.23	.13	.19	.20	.06	.26	.17	.08	.27	.17	.08
Anxiety Disorder	.71	.24	.22	.41	.21	.13*	.28	.18	.09	.23	.18	.07
Functional Limitation Level	-.51	.20	-.15	-.33	.18	-.10	-.41	.15	-.12**	-.34	.15	-.10*
ISMIS				-1.64	.16	-.50***	-.85	.17	-.26***	-.79	.18	-.24***
Social Supports												
MPSSS-Family							.06	.05	.07	.03	.05	.03
MPSSS-Friends							.43	.06	.44***	.38	.05	.40
MPSSS-Significant Others							.00	.05	.00	-.02	.05	-.02
Brief COPE												
Positive Coping										.00	.12	.00
Seeking Support										.29	.11	.15*
Avoidant Coping										.20	.13	.08
Substance Abuse										.14	.08	.08
Self-blame										-.29	.08	-.16*
Venting										-.32	.10	-.16**
Self-distraction										-.02	.09	-.01
R^2		.10***			.34***			.50***			.55***	
R^2 *change*					.24***			.16***			.05***	

Note. *p<.05; ** p <.01; *** p <.001

Table 9

Regression of Attachment to the Institution on Demographic Characteristics, Internalized Stigma of Mental Illness, Social Supports, and Coping Strategies. (n=285)

	Model 1			Model 2			Model 3			Model 4		
Variables	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Demographic characteristics												
Female	.62	.17	.21***	.45	.15	.15**	.41	.15	.14**	.36	.15	.12*
Minority Status	-.35	.17	-.12*	-.23	.15	-.08	-.11	.15	-.04	-.12	.14	-.04
Mood Disorder	.31	.20	.11	.12	.17	.04	.18	.17	.06	.20	.17	.07
Anxiety Disorder	.55	.21	.19**	.30	.18	.11	.22	.18	.08	.20	.17	.07
Functional Limitation Level	-.54	.18	-.18**	-.38	.15	-.13*	-.43	.15	-.15**	-.35	.15	-.12
ISMIS				-1.38	.14	-.48***	-.92	.16	-.32***	-.78	.17	-.27***
Social Supports												
MPSSS-Family							.07	.04	.09	.04	.04	.05
MPSSS-Friends							.20	.05	.24***	.17	.05	.20**
MPSSS-Significant Others							.02	.04	.03	-.02	.05	-.03
Brief COPE												
Positive Coping										-.02	.12	-.01
Seeking Support										.36	.11	.22**
Avoidant Coping										.07	.12	.03
Substance Abuse										.02	.08	.01
Self-blame										-.18	.08	-.11
Venting										-.31	.09	-.17
Self-distraction										-.06	.09	-.03
R^2		.12***			.34***			.40***			.45***	
R^2 *change*					.22***			.06***			.05**	

Note. *p<.05; ** p <.01; *** p <.001

Chapter 5: Discussion

Overview of Study Findings

Participants in this study were 292 undergraduate students with psychiatric disabilities at a large mid-Atlantic state university. Thirty percent of the participants were racial minority students, slightly more than other studies investigating college adaptation using the SACQ. The higher rate of minority students reflected the actual student body of the university. According to the registrar's office of the university, 37.8 % of the undergraduate students had minority backgrounds. Findings of this study revealed that minority students with psychiatric disabilities' self-reported college adaptation scores were lower than majority students (Caucasian American) in terms of academic adjustment, social adjustment, and attachment.

Gender differences were examined for scales of college adaptation and the results are similar to existing literature. Female students in this study tended to have better adaptation in social adjustment and attachment and no gender differences were found in terms of academic adjustment and personal-emotional adjustment. Adams' (2005) study on college students also found that female students were more attached than males. According to Baker and Siryk (1999), women often report higher scores on social adjustment. In terms of personal-emotional adjustment, previous studies found that male college students report higher scores on personal-emotional adjustment (Baker & Siryk, 1999; Adams, 2005). For the current sample, although there was no significant gender difference found in terms of personal-emotional adjustment, the mean score for male students (M=4.88) is slightly higher than female students (M=4.65).

The result of a bivariate correlation test in this study indicated that the number of completed semesters does not have a significant relationship with college adaptation for the current sample, while Baker and Siryk (1999) reported that the number of semesters completed had a positive relationship with college adaptation for college students (with or without psychiatric disabilities). The lacking of progress in college adjustment scores may indicate that students with psychiatric disabilities experience ongoing struggles throughout their college experience.

Internalized stigma of mental illness. As expected, students with a higher level of internalized stigma of mental illness tended to score lower in college adaptation. The correlation is from medium to high (*r* ranging from .38 to .53) . In hierarchical regression models, most of the negative associations remained negative after social supports and coping strategies were taken into consideration. The only exception is that the effect of internal stigma of mental illness was not significant for academic adjustment after adding coping strategies variables. This finding is consistent with the Blacklock et al. (2003) study's results: college students with mental illness and stakeholders concluded that stereotype and stigma were the most salient barriers in their college lives. Another study by Herrick (2011) found that perceived stigma of disability has a negative effect on college adaptation and may mediate the relationship between acceptance of disability and college adaptation.

In addition to negative effects on college adaptation, fear of being stigmatized also plays a role in willingness to disclose mental illness and use services in college (Knis-Matthews et al., 2007; Megivern et al., 2003). In this study, 239 out of 292 students did not register for disability services and 38 students indicated that they did not register

with disability services because “I don’t want others to know that I have a mental health condition or disability”. To summarize, students with higher internalized stigma of mental illness are less adjusted in college and the fear of being stigmatized may also prohibit some students from taking advantage of available resources and services and further limit their opportunities to get needed supports.

Social supports. One of the primary interests of this study was to investigate the social supports of students with psychiatric disabilities. Findings in this study suggest that different sources of social supports may play different role in adaptation of college students with psychiatric disabilities. Bivariate correlations indicated that all three social support variables are associated with every domain of college adaptation. However, when demographic variables and internalized stigma of mental illness were considered, family supports was a significant predictor of academic and personal-emotional adjustment, while friend supports was significant in the models of social support and attachment to the institution. The result contradicts previous study findings. In the reports by Caro (1985) and Hogan (1987), the relationship between perceived social supports and college adaptation were examined. Both of their studies concluded that academic adjustment is positively associated with perceived supports from friends and has no significant relationship with perceived supports from family. The finding in this study may suggest that family supports play a unique role in academic adjustment for students with psychiatric disabilities. However, it may also be possible that the contradictory finding was due to the difference in sample size and standard errors of the current study and Caro ‘s (1985) and Hogan’s (1987) studies. When sample size is larger, standard errors will be lower and the results will be more likely to reach significant level.

Previous literature also suggested that family supports are particularly important for students with disabilities in terms of learning legal rights and securing needed services (Anctil et al., 2008; Clara et al., 2003). Results in this study revealed that students who registered with disability services reported higher levels of family supports (t (290) = 2.41, p =.02). It should be noted that the direction of this relationship cannot be determined so there are multiple possible explanations. Students who have higher levels of family support may be more encouraged or more empowered to contact and register for disability services. It may also be because students who registered with disability services are in need of more family supports. A t-test indicated that study participants who reported registering with disability support services also reported higher level of interference of mental health condition in major life activities, (t (290)=-2.53, p<.05). I speculate that registered students reported higher levels of family supports because they need more supports in the academic area, from both family and disability services, to address their limitations.

Coping strategies. In this study, relationships between use of different coping strategies and college adaptation were examined. Almost all coping strategies had significant relationships with college adaptation. These results echo the study of Aspinwall and Taylor (1992) which linked use of coping strategies with psychosocial adjustment. Aspinwall and Taylor (1992) found that the relationships between optimism, control, and self-esteem, were mediated by nonuse of avoidance coping, greater use of active coping, and greater seeking social support.

For academic adjustment, self-distraction, venting, and seeking supports coping strategies are significant predictors in the hierarchical multiple regression models. As to

other psychosocial adaptations (i.e., personal-emotional, social, attachment), self-blame was found to be predictive in all three models, indicating that it may have a unique role in psychosocial adaptation for this population. Using more venting coping was found to be a negative predictor on social adjustment and attachment in the hierarchical model, suggesting that expressions of negative emotions may have harmful effects on interpersonal relationships.

Strengths and Contributions

This study provides first-hand quantitative information from college students with psychiatric disabilities, a population that is often found hard to identify and reach. As indicated by Brockelman (2009), an important issue in studying college students with mental illness is the need to identify this population. Most of the existing studies on college students with disabilities often use a registry with disability services as the sample selection criteria or the major recruitment source. However, many students who may be potentially eligible for disability services do not register with the disability services, especially students with invisible disabilities such as psychiatric disabilities. The current study identified this population by setting up selection criteria which matches the current ADA definition of disabilities (ADA, 1990; ADA Amendments Act, 2008). The research survey was distributed to all undergraduate students who had completed at least one semester in the university. Students who reported having one or more mental health condition(s) which interfered substantially with one or more major life activities or reported having episodic mental illness were included in the sample, in addition to students who registered with disability services. Although there may be some discrepancies when students define the extent to which the mental health conditions have

interfered with their major life activities, this recruitment method is more inclusive in reaching the target group than collecting data only from students registered with disability services. The diverse background of the current sample also allows analyses of the relationship between minority status and college adaptation.

This study is also the first study that provides quantitative evidence of the predictors of college adaptation for students with psychiatric disabilities. Previous studies were qualitative in methodology (Megivern et al., 2003), including but not focusing on psychiatric disabilities (Herrick, 2011), or focused on other stakeholders' perspectives rather than students' perspectives (Blacklock et al., 2003).

This study found support for the relationship between demographic and psychosocial variables and college adaptation for students with psychiatric disabilities. The non-significant relationship between semesters completed and college adaptation suggests that the struggles of college students with psychiatric disabilities to adapt may be an ongoing process throughout their college lives. The impact of internalized stigma of mental illness on college adaptation was found to be substantial. When coping strategies and social supports were considered, internalized stigma of mental illness remained a significant predictor in three out of the four college adaptation domains, namely, personal-emotional adjustment, social adjustment, and attachment. Different types of social supports were also found to impact college adaptation when selected demographic variable and internalized stigma of mental illness were controlled for. Particularly, family supports were found to have unique contribution to academic adjustment while friends' supports were more important in personal-emotional adjustment and attachment. These findings provide a direction for practitioners to develop effective interventions which

target specific outcomes and for further research focused on college adaptation among students with psychiatric disabilities.

The study also found evidence of the relationship between use of coping strategies and college adaptation among students with psychiatric disabilities. Correlational analyses indicate that use of certain coping strategies are associated with college adaptation. Even when demographic variables, internalized stigma of mental illness, and social supports are taken into consideration, specific coping strategies still have unique contributions to college adaptation. These findings can be useful when practitioners seek to conceptualize their clients' issues and develop interventions. For example, self-blame was the only significant predictor in all of the regression models of psychosocial adaptations. Practitioners who work with students with psychiatric disabilities must keep this in mind and identify the sign of self-blame when working with this population. Cognitive approach and psycho-education about mental illness may be useful in confronting the self-blame coping pattern.

In addition, the study also investigated the use of on-campus disability services among students with psychiatric disabilities, as well as their rationale for not using disability support services. As expected, only a few participants (n=53, 18%) registered with disability services on campus. Out of the 229 participants who did not register with disability support services, 119 (52%) did not think they have a disability, and 84 (37%) did not think that they were eligible for the services. One of the survey participant mentioned that taking the survey actually helped her to realize for the first time that she might be eligible for disability services due to major depression. Knowing the reasons why students do not use services is informative for stakeholders who seek to identify

their needs and provide necessary supports. More education on ADA rights and psychiatric disabilities is needed in postsecondary education institutions. Outreach programs such as anti-stigma workshops or panel for students with psychiatric disabilities may also needed so that these students can express their thoughts and voice their needs.

Limitations of the Study

The study has several limitations. First, as a cross-sectional study, the causal direction of the relationships between variables can not be determined. For example, does the student have fewer social supports because they have higher level of internalized stigma of mental illness? Or does the student internalize stigma more easily because they have fewer social supports? Further study to determine the direction is needed.

Another limitation is the challenge in measuring internalized stigma of mental illness. Corrigan and Watson (2002b) pointed out that researchers who were interested in measuring internalized stigma (or self-stigma) of mental illness need to develop a measurement strategy to distinguish outcome (e.g., self-esteem) that result from the psychiatric disorder per se or from internalizing stigma. For example, individuals with psychiatric disabilities may not feel that they belong to a stereotyped group because of there is a lack of awareness of disease due to their cognitive limitation. Thus, Corrigan and Watson (2002b) suggested including awareness of disease as a covariate in investigation of internalized stigma of mental illness. Although this study found that a number of participants did not think that they had a disability, the level of their awareness of their mental illness was not measured specifically.

The use of self-report method and a convenience sample poses other limitations. Self-report focused on subjective perceptions rather than objective measures of

adaptation or supports may cause biases. For example, social desirability bias often occurs when participants respond to socially sensitive questions (Fisher, 1993). Participants in this study may exaggerate their answers in socially desirable manner. Alternately, they may respond to the questions according to their feelings at the time they filled out the survey, which may not be an accurate reflection of the actual situation over time. For college students, their responses in the beginning of the semester and before mid-terms or finals may be very different. The survey was available online in the first month of the semester when many students have just returned to school and so may reflect the unique perceptions of students at that point in the school year. In addition, students' subjective perception of functional limitations was used as criteria to select the sample and may also limit the generalizability of the study because they may have diverse perceptions in defining the severity of their conditions.

Collecting the data from one postsecondary institution also limits the generalizability of the findings to all college students in the U.S. Participants in this study are from one state university located in a mid-Atlantic metropolitan area. Generalizing the results should be undertaken cautiously when applying conclusions to other types of postsecondary educational institutions or to different geographic areas. For example, individuals with severe mental health conditions may choose to enroll in community college instead of a four-year university. Findings of this study may not apply to community college students. Moreover, the sample in this study is more diverse in terms of ethnicity backgrounds. Replicating the study in another geographic area, such as mid-west, may result in different findings.

Online surveys are often criticized for being more available to individuals who have access to internet. The participants in the current study are college students who were often found to be internet users. A study on internet users among college students found that they check emails at least once a day and the average frequency of checking email is 4.9 times a day (Shields & Kane, 2011). The frequencies and habits of the students using internet may still have an effect but should not pose a threat to the major outcomes.

Implications

The findings of this study add understanding about the interaction of crucial factors and their impact on college adaptation among college students with psychiatric disabilities. Knowledge in this area should provide mental health providers and disability services staff clues for conceptualizing issues related to this population and promoting quality of services and supports needed. As noted by Adams and Proctor (2010), college students with invisible disabilities may have very different experiences from those who have visible disabilities because of discrimination and stigma, fear of discovery, and/or the stress of repeatedly explaining why educational accommodations are needed for a disability that cannot be seen. The impact of internalized stigma of mental illness was profound for college students with psychiatric disabilities in this study. To counteract these effects, counselors and college personnel should make efforts to diminish external stigma and decrease internalized stigma of these students. They should first educate themselves regarding the conditions and experiences of psychiatric disabilities in higher education settings, especially their fear of being stigmatized. To decrease external stigma of mental illness, staff who work closely with these students need to take a leading role in advocating for these students and promoting discussions on mental health issues on

campus. Actions also need to be taken to assist these students so that they will be capable of pursuing their legal rights and implementing their academic accommodations. Findings in this study suggests that internalized stigma of mental illness has strong impact on college adaptation among these students and also may be an issue for them not to take advantage of resources and ask for help. Interventions that focus on decreasing internalized stigma must be implemented. For example, Lucksted et al. (2011) developed a structured 9-session group intervention to assist people with serious mental illnesses reduce internalized stigma. Topics included in the meetings are: telling myth from fact, using cognitive-behavioral principles to change one's self-stigmatizing thinking, strengthening positive aspects of one's self, increasing belongingness in the community and with family/friends, and responding to stigma and discrimination. The intervention was found to be effective in terms of levels of internalized stigma, empowerment, recovery orientation, perceived social support, and beliefs about societal stigma. In addition to workshops and group sessions, it will also be helpful for disability professionals and college personnel to consider supporting students to form peer-run support groups so that they can share their experiences and empower themselves by being helper-givers.

Only about one-fifth of participants in this study registered with disability services on campuses. This finding is not surprising. In a national representative survey, Newman et al. (2009) found only 13% students who had documented emotional disturbances received accommodations in college. As cited in Weiner and Wiener (1996) and Megivern et al. (2003), some of these students do not know their legal rights. For example, two participants in this study reported that they had financial difficulties that

interfered with getting psychological tests required for eligibility for services. In fact, extensive psychological testing related to confirming psychiatric disability conducted by outside consultants is not a requirement of the law, and DS staff may be able to assist students in finding other means to meet eligibility requirements.

Special education teachers in secondary schools and disability services staff in postsecondary educational institutions should work hand-in-hand to assist these students in transition. For example, special education teachers may discuss with their students about what supports are available and useful in postsecondary education system. They can also host college personnel or college students with psychiatric disabilities as guest speakers to present on above topics.

Creating services that meet students' needs are important. For the students who chose not to register, the most salient reason is "I don't think I have a disability". One student mentioned that he did not know that major depression may be considered as a disability before seeing the survey. Postsecondary institutions may consider enhancing the visibility of disability services and available resources to students with mental health conditions. A case study by Cory, White, and Stuckey (2010) proposed the importance of using disability studies theory to create and change the perceptions of disability services. Students' self-advocacy to engage the campus in conversations was especially emphasized in the process of transforming disability services and campus cultures.

Findings about social supports in this study indicate that familial supports are crucial in terms of academic adjustment among this population. On- and off-campus service providers should be aware of the role that family supports play and learn to work with family members of these students as well as help the students connect with their family.

Megivern et al. (2003) pointed out that college students with psychiatric disabilities have high level of social isolation and many (40%) reported having problems with their family. For students who have difficulties in their families, family counseling may also be considered.

Recommendations for Future Studies

This study provides important information about the relationship between psychosocial characteristics and college adaptation among college students with psychiatric disabilities. Several directions can be considered in terms of expanding this topic further. First, future studies may collect data from multiple campuses and may detect if there is any difference due to campus characteristics and geographic locations.

Second, this study investigated the factors associated with college adaptation and found that internalized stigma, social supports, and several coping strategies can be important predictors of college adaptation among students with psychiatric disabilities. However, experimental studies on interventions that seek to decrease internalized stigma, to promote social supports, and to teach effective coping strategies, are needed to determine the causal variables in college adaptation in terms of identifying interventions that improve college adaptation.

Third, semesters completed did not reveal association with college adaptation in this study, which is different from studies using the same scale for general population. Longitudinal studies are necessary for detecting change or non-change psychosocial characteristics and college adaptation among students with psychiatric disabilities.

One interesting finding is the role that family support plays in students' academic adjustment. What roles do families play in helping the students adjust to their academic

challenge in postsecondary education? Previous literature often addressed family role in either advocating for or helping students to advocate for themselves. However, other roles that family supports play (e.g., educational aspiration, networking, financial supports…etc.) are not clear yet. In-depth qualitative studies may add depth to identify what types of family supports are most useful.

Another direction for future study is investigation of perceived supportiveness from faculty. In the current study, social supports from family, friends, and significant others were explored and use of services was identified. However, an important source of support for college students is faculty members. A previous study on faculty perception about students with mental illness revealed that most of faculty (65%) viewed themselves as capable of discussing their concerns with students who show signs of a mental illness (Becker et al., 2002). Extended deadline and extra time for exams were often provided as accommodations. However, the study was from the faculty's point of view rather than the students' perspective. It would be useful to include the perceived support from faculty for students with psychiatric disabilities in studies that seek to understand their subjective experiences with faculty members and impact of faculty supports on college adaptation. Qualitative studies may also be adapted to understand the experience of students with psychiatric disabilities regarding their relationship with faculty members, especially how they negotiate accommodations, whether or not through disability services.

To conclude, this study provides first-hand data on factors related to college adaptation among college students with psychiatric disabilities. Findings from surveys of 292 college students with psychiatric disabilities indicate that internalized stigma of mental illness has strong impact on college adaptation among these students, and that

different types of social supports and coping strategies have unique contributions to college adaptation. Implications for on- and off-campus mental health providers and disability services staff are provided and directions for future research are discussed.

Appendices

Appendix A: Demographic Form

Directions: Please fill in the blank with the appropriate answer. Select the response that best describes you.

What is your age? [ ]

What is your gender? [ ]Male [ ]Female [ ]Other (please specify):_____

Which of the following ethnicity backgrounds apply best to you (check all that apply)?
[ ] Caucasian
[ ] African-American
[ ] Asian-American
[ ] Latino/Hispanic
[ ] Native American
[ ] Others (please specify):_____

Student Status: [ ] Part-time [ ] Full-time

How many credits have you earned to date (include transferred credits)? [ ]

How many semesters have you been registered at your current institution? [ ]

What is your cumulative GPA (on a 4.0 scale)? [ ]

Age when mental health condition first diagnosed or treated: [ ]

What is your type of mental health condition?
[ ] Schizophrenia
[ ] Schizoaffective Disorder
[ ] Bipolar Disorder
[ ] Major Depression
[ ] Borderline Personality Disorder

[ ] Anxiety Disorder
[ ] Other, please specify: _____

How much has your mental health condition(s) interfered with your life when the interference was at its worst in the past? Please rate each of the activities listed below:

Life Activity	Not at All	A Little Bit	A Moderate Amount	A Substantial Amount
Concentrating				
Memory				
Sleeping				
Eating				
Social Interactions				
Self-care				
Learning				
Working				

Have you used counseling services on campus? Yes [ ] No [ ]

Have you used learning assistance services on campus? Yes [ ] No [ ]

Have you received medications or prescriptions for mental health issues on campus? Yes [ ] No [ ]

Have you used the health center for mental health issues? Yes [ ] No [ ]

Have you registered with disability services on campus? Yes [ ] No [ ]

Have you participated in any mental health related student organizations on campus? Yes [ ] No [ ]

Have you seen a mental health professional off-campus since starting college?

Have you attended in any consumer/peer support or mental health self-help organizations off-campus? Yes [ ] No [ ]

Have you used any vocational rehabilitation or supported education services off campus? Yes [ ] No [ ]

If you have not registered with Disability Services on campus, please indicate the primary reason (please skip this question if you have registered)?

[ ] I don't think I have a disability.
[ ] I don't think I am eligible for Disability Services
[ ] I can manage without using Disability Services
[ ] I don't want others to know I have a mental health condition or disability
[ ] I didn't know Disability Services were available to me
[ ] I use other services
Other (please specify): _____

Appendix B: Internalized Stigma of Mental Illness Scale (ISMIS-10)

We are going to use the term "mental illness" in the rest of this questionnaire, but please think of it as whatever you feel is the best term for it.

For each question, please mark whether you strongly disagree (1), disagree (2), agree (3), or strongly agree (4).

	Strongly disagree	Disagree	Agree	Strongly agree
1. Mentally ill people tend to be violent.	1	2	3	4
2. People with mental illness make important contributions to society.	1	2	3	4
3. I don't socialize as much as I used to because my mental illness might make me look or behave "weird."	1	2	3	4
4. Having a mental illness has spoiled my life.	1	2	3	4
5. I stay away from social situations in order to protect my family or friends from embarrassment.	1	2	3	4
6. People without mental illness could not possibly understand me.	1	2	3	4
7. People ignore me or take me less seriously just because I have a mental illness.	1	2	3	4
8. I can't contribute anything to society because I have a mental illness.	1	2	3	4
9. I can have a good, fulfilling life, despite my mental illness.	1	2	3	4
10. Others think that I can't achieve much in life because I have a mental illness.	1	2	3	4

Appendix C: Multidimensional Scale of Social Support

Directions: Please read the statements carefully and place the number from 1 to 7 to show how you feel about the statement.

1. There is a special person who is around when I am in need.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
2. There is a special person with whom I can share joys and sorrows.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
3. My family really tried to help me.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
4. I get the emotional help and support I need from my family.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
5. I have a special person who is a real source of comfort to me.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
6. My friends really try to help me.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
7. I can count on my friends when things go wrong.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
8. I can talk about my problems with my family.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
9. I have friends with whom I can share my joys and sorrows.
   Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
10. There is a special person in my life who cares about my feelings.
    Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
11. My family is willing to help me make decisions.
    Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree
12. I can talk about my problems with my friends.
    Very Strongly Agree 1 2 3 4 5 6 7 Very Strongly Disagree

Appendix D: Coping Strategies

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says, how much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1 ___ I've been turning to work or other activities to take my mind off things.
2 ___ I've been concentrating my efforts on doing something about the situation I'm in.
3 ___ I've been saying to myself "this isn't real."
4 ___ I've been using alcohol or other drugs to make myself feel better.
5 ___ I've been getting emotional support from others.
6 ___ I've been giving up trying to deal with it.
7 ___ I've been taking action to try to make the situation better.
8 ___ I've been refusing to believe that it has happened.
9 ___ I've been saying things to let my unpleasant feelings escape.
10 ___ I've been getting help and advice from other people.
11 ___ I've been using alcohol or other drugs to help me get through it.
12 ___ I've been trying to see it in a different light, to make it seem more positive.

13 ___ I’ve been criticizing myself.
14 ___ I've been trying to come up with a strategy about what to do.
15 ___ I've been getting comfort and understanding from someone.
16 ___ I've been giving up the attempt to cope.
17 ___ I've been looking for something good in what is happening.
18 ___ I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
19 ___ I've been accepting the reality of the fact that it has happened.
20 ___ I've been expressing my negative feelings.
21 ___ I’ve been trying to get advice or help from other people about what to do.
22 ___ I've been learning to live with it.
23 ___ I've been thinking hard about what steps to take.
24 ___ I’ve been blaming myself for things that happened.

Appendix E: Recruitment Email

Dear Undergraduate Student:

We would like to invite you to participate in a research study on adaptation to college and mental health conditions. Your participation will provide valuable information that helps college personnel to understand what factors help students to adjust to college when they have a mental health condition so that we can identify how to improve the college experience for these students.

The information you provide will be kept confidential, and no names or identifying information will be associated with the information that you provide. Data will only be accessed by researchers and analyzed in aggregated format so that no individual's answers can be identified. This online survey should not take you more than 30 minutes. After completing the survey, you will be offered a choice to be entered into a random drawing to win a gift card for Amazon.com. One $200 gift card and ten $20 gift cards will be awarded. Your name and contact information will not be connected to your survey responses. Your decision to participate in this study or not will not affect your student status or any services you receive on- and off-campus providers.

To be eligible to participate, you must be at least 18 years old, have been diagnosed with or treated for a mental health condition in the past, and have completed at least one semester at the university. We hope you consider taking this survey.

Thank you for your time to read this email. Your participation in this survey will be greatly appreciated. If you have any questions, please do not hesitate to contact us at emarsemars@gmail.com or kim.mw7@gmail.com

Click the following link will take you to the survey: www.XXXXXX

Thank you,
Kim MacDonald-Wilson, Sc.D., CRC, LRC
Chia-Huei Lin, M. Ed.
Department of Counseling, Higher Education, and Special Education
University of Maryland, College Park

Appendix F: Consent Form

You are invited to participate in a research study on college adaptation and mental health conditions. This is a study conducted by Kim MacDonald-Wilson and Chia-Huei Lin at the University of Maryland. You are being invited because you are an undergraduate student.

The study will take approximately 20-30 minutes. You will be asked to complete a series of questions about college experiences and mental health conditions. The information you provide will be kept confidential. Data will only be accessed by researchers and analyzed in aggregated format. No individual identifying information will be associated with your responses or shared with university staff. Participation in this study is completely voluntary. You are free to discontinue participating at any time without being penalized.

After completing the survey, you will be offered a choice to be entered into a drawing to win a gift card for Amazon.com. One $200 gift card and ten $20 gift cards will be given away. Your contact information will not be connected to your survey responses. Once the survey responses are entered into a database, and the raffle has been drawn, all the survey data and contact information will be destroyed.

There are no known risks to individuals participating in the study. Your participation in this research is not intended to benefit you personally. It is hoped that this research will increase understanding of the experiences of college students with mental health conditions. Your decision to participate in this study or not will not affect your student status or any services you receive through on- or off-campus providers.

If you have any questions about the research study, you can contact Chia-Huei Lin at emarsemars@gmail.com , or Dr. Kim MacDonald-Wilson at kim.mw7@gmail.com.

For questions regarding your rights as a research participant, please contact the Institutional Review Board Office, University of Maryland at (301) 405-0678 or by email at irb@deans.umd.edu.

By filling out the survey, you have read the information and consented to participate in the study. If you are using a public computer, please remember to close your computer browser or log-off once the online survey has been completed.

Thank you in advance for taking the time to fill out this survey!

References

Adams, L. L. (2005). When psychopaths go to college: Psychopathic traits and college adjusment. *McNair Scolars Journal, 9* (1). Retrieved from http://scholarworks.gvsu.edu/mcnair/vol9/iss1/2

Adams, K. S., & Proctor, B. E. (2010). Adaptation to college for students with and without disabilities: Group differences and predictors. *Journal of Postsecondary Education and Disability, 22*, 166-184.

Algozzine, B., Browder, D., Karvonen, M., Test, D. W., & Wood, W. M. (2001). Effects of interventions to promote self-determination for individuals with disabilities. *Review of Educational Research, 71*(2), 219-277.

American College Health Association. (2012). *American College Health Association National College Health Asssessment Reference Group Executive Summary Spring 2012.* Retrieved from http://www.acha-ncha.org/docs/ACHA-NCHA-II_ReferenceGroup_ExecutiveSummary_Spring2012.pdf

Americans with Disabilities Act of 1990, Pub. L. No. 101-336, § 2, 104 Stat. 328 (1991).

Americans with Disabilities Amendments Act (ADAAA), Pub. L. No. 110-325, § 2(b)(1), 122 Stat. 3553 (2008)

Anctil, T., M. , Ishikawa, M. E., & Scott, A., T. (2008). Academic identity development through self-determinati: Successful college students with learning disabilities. *Career Development for Exceptional Individuals, 31*(3), 164-174.

Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal Persality and Social Psychology, 63*(6), 989-1003.

Baker, R. W., & Siryk, B. (1984). Measuring adjustment to college. *Journal of Counseling Psychology, 31*(2), 179-189. doi: 10.1037/0022-0167.31.2.179.

Baker, R. W., & Siryk, B. (1999). *Manual for Student Adaptation to College Questionnaire.* Los Angeles: Western Psychological Services.

Becker, M., Martin, L., Wajeeh, E., Ward, J., & Shern, D. (2002). Students with mental illness in a university setting: Faculty and student attitudes, beliefs, knowledge, and experiences. *Psychiatric Rehabilitation Journal, 25*(4), 359-368.

Blacklock, B., Benson, B., & Johnson, D. (2003). *Needs Assessment Project: Exploring barriers and opportunities for college students with psychiatric disabilities.* Retrieved June 22, 2004, from the University of Minnesota web site: http://ds.umn.edu/Grants/NeedsAssessmentProject/index.html.

Boyd, J. E., Katz, E. P, Link, B. G., Phelan, J. C. (2010). The relationship of multiple aspects of stigma and personal contact with someone hospitalized for mental illness, in a nationally representative sample. *Social Psychiatry Psychiatric Epidemiology, 45*(11), 1063-70.

Brockelman, K. F. (2009). The interrelationship of self-determination, mental illness, and grades among university students. *Journal of College Student Development, 50*(3), 271-286.

Brockelman, K. F., Chadsey, J. G., & Loeb, J. W. (2006). Faculty perceptions of university students with psychiatric disabilities. *Psychiatric Rehabilitation Journal, 30*(1), 23-30.

Buseh, A. G., Kelber, S. T., Hewitt, J. B., Stevens, P. E., & Chang Gi, P. (2006). Perceived stigma and life satisfaction: Experiences of urban African American men living with HIV/AIDS. *International Journal of Men's Health, 5*(1), 35-51.

Caro, J. E. (1985). An empirical investigation of attachment in adulthood and its relationship to adjustment in college. (Doctoral dissertation). *Dissertation Abstracts International, 47,* 2670B.

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine, 4*(1), 92-100. doi: 10.1207/s15327558ijbm0401_6

Center for Psychiatric Rehabilitation at Boston University. (1997). *How does mental illness affect the way I function at school?* Retrieved July 20, 2011, from http://www.bu.edu/cpr/jobschool/functed.html

Clara, I. P., Cox, B. J., Enns, M. W., Murray, L. T., & Torgrudc, L. J. (2003). Confirmatory factor analysis of the multidimensional scale of perceived social support in clinically distressed and student samples. *Journal of Personality Assessment, 81*(3), 265-270. doi: 10.1207/s15327752jpa8103_09

Collins, M. E., Bybee, D., & Mowbray, C. T. (1998). Effectiveness of supported education for individuals with psychiatric disabilities: Results from an experimental study. *Community Mental Health Journal, 34*(6), 595-613.

Collins, M. E., & Mowbray, C. T. (2005a). Higher education and psychiatric disabilities: National Survey of Campus Disability Services. *American Journal of Orthopsychiatry, 75*(2), 304-315.

Collins, M. E., & Mowbray, C. T. (2005b). Understanding the policy context for supporting students with psychiatric disabilities in higher education. *Community Mental Health Journal, 41*(4), 431-450.

Collins, M. E., & Mowbray, C. T. (2008). Students with psychiatric disabilities on campus: Examining predictors of enrollment with disability support services. *Journal of Postsecondary Education & Disability*, *21*(2), 91-104.

Collins, M. E., Mowbray, C. T., & Bybee, D. (1999). Measuring coping strategies in an educational intervention for individuals with psychiatric disabilities. *Health and Social Work, 24*(4), 279-290.

Cook, J. A., & Jonikas, J. A. (2002). Self-determination among mental health consumers/ survivors: Using lessons from the past to guide the future. *Journal of Disability Policy Studies, 13*(2), 87-95.

Corrigan, P. W., Markowitz, F. E., & Watson, A. C. (2004). Structural levels of mental illness stigma and discrimination. *Schizophrenia Bulletin, 30*(3), 481-491.

Corrigan, P., & Miller, F. (2004). Shame, blame, and contamination: A review of the impact of mental illness stigma on family members. *Journal of Mental Health, 13*(6), 537-548.

Corrigan, P. W., & Penn, D. L. (1999). Lessons from social psychology on discrediting psychiatric stigma. *American Psychology, 54*(9), 765-776.

Corrigan, P. W., & Watson, A. C. (2002a). Understanding the impact of stigma on people with mental illness. *World Psychiatry, 1*(1), 16-20.

Corrigan, P. W. and Watson, A. C. (2002b), The Paradox of Self-Stigma and Mental Illness. *Clinical Psychology: Science and Practice*, 9: 35–53. doi: 10.1093/clipsy.9.1.35

Cory, R., White, J., & Stuckey, Z. (2010). Using disability theory to change disability services: A case study in student activism. *Journal of Postsecondary Education and Disability, 23*(1), 29-38.

Covarrubias, I., & Han, M. (2011). Mental health stigma about serious mental illness among MSW students: Social contact and attitude. *Social Work, 56*(4), 317-325.

Darling, R. B. (1988). Parental entrepreneurship: A consumerist response to professional dominance. *Journal of Social Issues, 44*(1), 141-158.

Deci, E. L., & Ryan, R. M. (1980). Self-determination theory: When mind mediates behavior. *Journal of Mind and Behavior, 1*, 33-44.

Deegan, P. (1996). Recovery as a journey of the heart. *Psychiatric Rehabilitation Journal, 19*(3), 91-97.

DePrince Jr. A. E., & Morris, P. D. (2008). The effects of education on the natural rate of unemployment. *Business Economics, 43*(2), 45-54.

Disabled Students' Program at University of California (2012). *Disabled Students' Program Certification of Psychological Diability.* Retrieved from http://dsp.berkeley.edu/psychcertification.pdf.

Feldt, R. C., Graham, M., & Dew, D. (2011). Measuring adjustment to college: Construct validity of the Student Adaptation to College Questionnaire. *Measurement and*

Evaluation in Counseling and Development, 44(2), 92-104. doi: 10.1177/0748175611400291.

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research, 20,* 303-315.

Folkman, S., Lazarus, R. S. (1991). Coping and emotion. In A. Monat & R.S. Lazarus (Eds.). *Stress and Coping: an Anthology* (3rd ed., pp. 208-227). New York: Columbia University Press.

Gartin, B. C., & Rumrill, P. (1996). The higher education transition model: Guidelines for facilitating college transition among college-bound students with disabilities. *Teaching Exceptional Children, 29*(1), 30-33.

Gerdes, H., & Mallinckrodt, B. (1994). Emotional, social, and academic adjustment of college-students - A longitudinal study of retention. *Journal of Counseling and Development, 72*(3), 281-288.

Getzel, E. E., & Thoma, C. A. (2008). Experiences of college students with disabilities and the importance of self-determination in higher education settings. *Career Development for Exceptional Individuals, 31*(2), 77-84. doi: 10.1177/0885728808317658.

Gordon, M., Lewandowski, L., Murphy, K., & Dempsey, K. (2002). ADA-based accommodations in higher education. *Journal of Learning Disabilities, 35*(4), 357-363. doi: 10.1177/00222194020350040601.

Harris, K. M., Edlund, M. J., & Sharon, L. (2005). Racial and ethnic differences in the mental health problems and use of mental health care. *Medical Care, 43*(8), 775-784.

Herrick, S. J. (2011) *Postsecondary Students with Disabilities.* Doctoral Dissertation. Retrieved from: https://etda.libraries.psu.edu/paper/11650/7400.

Hogan, M. P. (1987). The relationship of past interpersonal loss to college adjustment.(Doctoral dissertation). *Dissertation Abstacts International, 48,* 3112B.

Horn, L., & Nevill, S. (2006). *Profile of Undergraduates in U.S. postsecondary Education Institutions: 2003-04: With a special analysis of community college students (NCES 2006-184).* U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Individuals with Disabilities Education Act 1990. Public Law No. 94-142.

Individuals with Disabilities Education Improvement Act of 2004. Public Law No. 108-446.

Kim, N. (2010). Asian parents' perceptions of child disability and school contact for services. Doctoral dissertation, University of Maryland, Department of Counseling and Personnel Services.

Knis-Matthews, L., Bokara, J., DeMeo, L., Lepore, N., & Mavus, L. (2007). The meaning of higher education for people diagnosed with a mental illness: Four students share their experiences. *Psychiatric Rehabilitation Journal, 31*(2), 107-114.

Lazarus, R. S., & Launier, R. (1978). Stress-related transactions between person and environment. In L. A. Pervin and M. Lewis (Eds.), *Perspectives in Interactional Psychology (pp. 287–327).* New York: Plenum.

Leake, D., Burgstahler, S., Applequist, K., Rickerson, N., Izzo, M., Arai, M., & Picklesimer, T. (2006). Literature synthesis of key issues in supporting culturally

and linguistically diverse students with disabilities to succeed in postsecondary education. *Journal of Postsecondary Education & Disability, 18*(2), 149-165.

Lin, N. (1986). Conceptualizing social support. In N. Lin, A. Dean, & W. M. Ensel (Eds.), *Social supports, life events, and depression* (pp. 17-30). Orlando, FL: Academic.

Link, B. G., Mirotznik, J., & Cullen, F. T. (1991). The effectiveness of stigma coping orientations: Can negative consequences of mental illness labeling be avoided? *Journal of Health & Social Behaviors, 32*(3), 302-320.

Livneh, H., & Martz, E. (2007). An introduction to coping theory and research. In E. Martz, H. Livneh, & B. A. Wright (Eds.), *Coping with Chronic Illness and Disability* (pp. 3-27). New York: Springer.

Livneh, H., & Wilson, L. M. (2003). Coping strategies as predictors and mediators of disability-related variables and psychosocial adaptation: An exploratory investigation. *Rehabilitation Counseling Bulletin, 46*(4), 194-208.

Loewen, G. (1993). Improving access to postsecondary education. *Psychosocial Rehabilitation Journal, 17*(1), 151-155.

Lucksted, A., Drapalski, A., Calmes, C., Forbes, C., DeForge, B., & Boyd, J. (2011). Ending self-stigma: Pilot evaluation of a new intervention to reduce internalized stigma among people with mental illnesses. *Psychiatric Rehabilitation Journal, 35*(1), 51-54. doi: 10.2975/35.1.2011.51.54.

Lundberg, B., Hansson, L., Wentz, E., & Bjorkman, T. (2009). Are stigma experiences among persons with mental illness, related to perceptions of self-esteem, empowerment and sense of coherence? Journal of Psychiatric and Mental Health Nursing, 16(6), 516-522. doi: 10.1111/j.1365-2850.2009.01418.x.

MacDonald-Wilson, K. L., & Nemec, P. B. (2005). The ICF in psychiatric rehabilitation. *Rehabilitation Education, 19*(2-3), 159-176.

MacDonald-Wilson, K. L., Rogers, E. S., & Massaro, J. (2003). Identifying relationships between functional limitations, job accommodations, and demographic characteristics of persons with psychiatric disabilities. *Journal of Vocational Rehabilitation, 18*(1), 15-24.

MacInnes, D. L., & Lewis, M. (2008). The evaluation of a short group programme to reduce self-stigma in people with serious and enduring mental health problems. *Journal Psychiatriac and Mental Health Nursing, 15*(1), 59-65. doi: 10.1111/j.1365-2850.2007.01212.x.

Manthorpe, J., & Stanley, N. (2000). Student approaches: Supporting students in A&E settings. *Accident and Emergency Nursing, 8*(2), 88-91. doi: 10.1054/aaen.1999.0087.

Mattanah, J. F., Hancock, G. R., & Brand, B. L. (2004). Parental attachment, separation-individuation, and college student adjustment: A structural equation analysis of mediational effects. *Journal of Counseling Psychology, 51*(2), 213-225. doi:10.1037/0022-0167.51.2.213.

Mickelson, K. D. (2001). Perceived stigma, social support, and depression. *Personality and Social Psychology Bulletin, 27*. 1046-1056. doi:10.1177/0146167201278011.

Megivern, D., Pellerito, S., & Mowbray, C. (2003). Barriers to higher education for invividuals with psychiatric disabilities. *Psychiatric Rehabilitation Journal, 26*(3), 217 - 231.

Morningstar, M. E., Turnbull, A. P., & Turnbull, H. R. (1995). What do students with disabilities tell us about the importance of family involvement in the transition from school to adult life? *Exceptional Children, 62*(3), 249-260.

Morosanu, L., Handley, K., & O'Donovan, B. (2010). Seeking support: Researching first- year students' experiences of coping with academic life. *Higher Education Research & Development, 29*(6), 665-678. doi: 10.1080/07294360.2010.487200.

Mowbray, C. T., Megivern, D., & Holter, M. C. (2003). Supported education programming for adults with psychiatric disabilities: Results from a national survey. *Psychiatric Rehabilitation Journal, 27*(2), 159-167.

Newman, L., Wagner, M., Cameto, R., & Knokey, A.-M. (2009). *The post-high school outcomes of youth with disabilities up to 4 years after high school: A report of findings from the National Longitudinal Transition Study-2 (NLTS2) (NCSER 2009-3017).* Menlo Park, CA: SRI International. Retrieved July 20, 2010 from www.nlts2.org/reports/2009_04/nlts2_report_2009_04_complete.pdf.

Patterson, J. B., Szymanski, E. M., & Parker, R. M. (2005). Rehabilitation counseling: The profession. In R. M. Parker, E. M. Szymanski, & J. B. Patterson (Eds.), *Rehabilitation counseling: Basics and beyond* (4th ed.), (pp. 1-25). Austin: PRO-ED.

Perrez, M., & Reicherts, M. (1992). *Stress, coping, and health: a situation-behavior approach : theory, methods, applications*. Toronto: Hogrefe & Huber.

Radnitz, C., & Tiersky, L. (2007). Psychodynamic and cognitive theories of coping. In E. Martz & H. Livneh (Ed.), *Coping with chronic illness and disability: Theoretical, empirical, and clinical aspects* (pp. 29-48). New York, NY: Springer Verlag.

Rehabilitation Act of 1973, Public Law 93-112, 87 Stat. 355.

Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: Psychometric properties of a new measure. *Psychiatry Research, 121*(1), 31-49.

Ritsher, J. B., & Phelan, J. C. (2004). Internalized stigma predicts erosion of morale among psychiatric outpatients. *Psychiatry Research, 129*(3), 257-265. doi: 10.1016/j.psychres.2004.08.003.

Rogers, E. S., Farkas, M., Anthony, W., & Kash-MacDonald, M. (2009). *Systematic Review of Supported Education Literature 1989-2009.* Retrieved on September 28, 2011 from Boston University Center of Psychiatric Rehabilitation website: http://www.bu.edu/drrk/research-syntheses/psychiatric-disabilities/supported-education/

Shields, N., & Kane, J. (2011). Social and psychological correlates of internet use among college students. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 5*(1), article 2. Retrieved from http://cyberpsychology.eu/view.php?cisloclanku=2011060901&article=2.

Smith-Osborne, A. (2005). Antecedents to postsecondary educational attainment for individuals with psychiatric disorders: A meta-analysis. *Best Practice in Mental Health: An International Journal, 1*(1), 15-30.

Snell, D.L., Siegert, R. J., Hay-Smith, E. J. C., Surgenor, L. J. (2010). An examination of the factor structure of the Revised Illness Perception Questionnaire modified for adults with mild traumatic brain injury. *Brain Injury, 24*, 1595-1605.

Snyder, C. R., & Dinoff, B. L. (1999). Coping where have you been? In C. R. Snyder (Ed.). *Coping: The psychology of what works* (pp. 3-19). New York: Oxford University Press.

So, H., Kim, H., & Ju, K. (2011). Prediction model of quality of life in elderly based on ICF model. *Journal of Korean Academic Nursing*, *41*(4), 481-490. doi: 10.4040/jkan.2011.41.4.481.

Souma, A., Rickerson, N., & Burgstahler, S. (2004). *Psychiatric disabilities in postsecondary education: Universal design, accommodations and supported education.* Seatle: DO-IT, University of Washington, Retrieved on August 21, 2005 from http://www.ncset.hawaii.edu/institutes/mar2004/papers/pdf/Souma_revised.Pdf.

Stodden, R. A., & Dowrick, P. W. (1999). Postsecondary education and employment of adults with disabilities. *American Rehabilitation, 25*(4), 19-23.

Stodden, R. A., Whelley, T., Chang, C., & Harding, T. (2001). Current status of educational support provision to students with disabilities in postsecondary education. *Journal of Vocational Rehabilitation, 16*(3/4), 189.

Szymanski, E. M. (1985). Rehabilitation counseling: A profession with a vision, an identity, and a future. *Rehabilitation Counseling Bulletin, 29,* 2-5.

Trainor, A. A. (2008). Using cultural and social capital to improve postsecondary outcomes and expand transition models for youth with disabilities. *The Journal of Special Education, 42*(3), 148-162. doi: 10.1177/0022466907313346.

UIC National Research & Training Center on Psychiatric Disability and the UIC NRTC Self-Determination Knowledge Development Workgroup (2002).

Self-Determination Framework for People with Psychiatric Disabilities. Chicago, IL: Author. Retrieved on September 20, 2011 from http://www.psych.uic.edu/uicnrtc/sdframework.pdf.

Wehmeyer, M. L. (1999). A functional model of self-determination. *Focus on Autism and Other Developmental Disabilities, 14*(1), 53-61. doi: 10.1177/108835769901400107.

Wehmeyer, M., L. . (2007). *Promoting self-determination in students with developmental disabilities*. New York: The Guilford Press.

Weiner, E., & Wiener, J. (1996). Concerns and needs of university students with psychiatric disabilities. *Journal on Postsecondary Education and Disability, 12*(1), 2-9.

Welbourne, L. J., Eggerth, D., Hartley, T., Sanchez, F., & Andrew, M. (2007). Coping strategies in the workplace: Relationships with attributional style and job satisfaction. *Journal of Vocational Behavior, 70*, 312-325.

Wolman, C., McCrink, C. S., Rodriguez, S. F., & Harris-Looby, J. (2004). The accommodation of university students with disabilities inventory (AUSDI): Assessing American and Mexican faculty attitudes toward students with disabilities. *Journal of Hispanic Higher Education, 3*(3), 284-295. doi: 10.1177/1538192704265985.

World Health Organization. (2001). *International Classification of Functioning, Disability and Health*. Geneva: Author. Retrieved on September 25, 2011 from http://www.disabilitaincifre.it/documenti/ICF_18.pdf.

Yanos, P. T., Roe, D., Markus, K., & Lysaker, P. H. (2008). Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders. *Psychiatric Services, 59*(12), 1437-1442. doi: 10.1176/appi.ps.59.12.1437.

Zhang, D., Landmark, L., Reber, A., Hsu, H., Kwok, O.-M., & Benz, M. (2010). University faculty knowledge, beliefs, and practices in providing reasonable accommodations to students with disabilities. *Remedial and Special Education, 31*(4), 276-286. doi: 10.1177/0741932509338348.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Supports. *Journal of Personality Assessment, 52*(1), 30-41. doi: 10.1207/s15327752jpa5201_2.