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Development of the Postsecondary Student Survey of Disability-Related Stigma (SSDRS)

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Development of the Postsecondary Student Survey of Disability-Related Stigma (SSDRS)

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

By

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Qualitative interviews of college students with disabilities indicated that students were reporting significant discrimination and disability stigma effects. Until recently, however, no formal instruments had been developed specifically to measure disability stigma in college students. The purpose of this study was to develop the Postsecondary Student Survey of Disability-Related Stigma (SSDRS), a Likert-type scale that measured amount of perceived stigma in college students with disabilities. The SSDRS was patterned after similar instruments developed to measure race-related stigma and other forms of perceived social discrimination, and was designed to be administered through disability support service offices. The SSDRS consisted of five subscales: personal feelings, global events, academics, group identity, and personal relationships.

The questionnaire was pilot tested at two schools, a small, private liberal arts college and a medium-sized, urban community college (n = 85). A preliminary exploratory factor analysis and reliability analysis suggested minor changes to the
instrument. The pilot results also provided justification for further sampling and more formal analysis of the instrument with a larger data set. The scale was then administered to students with disabilities at a large urban research university. The results were similar to those from the pilot.

After aggregating the data (N = 121), another exploratory factor analysis was conducted to identify the underlying structures measured by the instrument. The five subscales suggested by the literature were confirmed, and subscale reliability of scores improved. Analysis of the aggregate data also suggested the removal of several items that did not appear to function well in the instrument.

The results of the study suggested that disability stigma is a significant issue for college students with disabilities. Disability support personnel at the postsecondary level could use an instrument like the SSDRS for benchmarking, analyzing the disability climate on campus, or designing specific student interventions. The results also suggested that the phenomenon of disability stigma is measurable, and worthy of future study.
CHAPTER I

Introduction

Stigma comes from the Greek word meaning mark or token of disgrace. Stigma and the “otherness” related to having a disability have impacted individuals since the earliest recorded history. Whether they were treated as mediums for supernatural powers, portents of evil, or completely ignored, individuals with disabilities have never been able to escape the social consequences of their impairments.

Disability also carries academic consequences for college students. Although stigma is a social construct, it never-the-less looms as large as any physical barrier faced by individuals with disabilities (Susman, 1994). As students with disabilities, both visible, such as mobility impairment, and invisible, such as learning disabilities, graduate from high school and move into postsecondary environments, they leave behind the protection of Individuals with Disabilities Education Act (IDEA) legislation, and enter into the often unfriendly adult world of the Americans with Disabilities Act (ADA) where stigma becomes a much more consequential issue, and perhaps more than ever before, begins to make its mark on individuals. The focus of this dissertation was on the development of an instrument that could generate reliable and valid scores of disability-related stigma in college students with self-disclosed disabilities.

Background for the Study

This study began with a simple question. Why don’t college students with
disabilities come forward more willingly to disclose their disabilities to receive accommodations? Many researchers and evaluators of student support programs have noted over time that students with disabilities came forward to ask for help after they found themselves in academic difficulty (Frank, 2004; Trammell, 2003c). When asked why they did not ask for help sooner, the students often responded that they “wanted to make it on their own” after they graduated from high school, or that they “didn’t want to be treated differently from anyone else” (Trammell, 2003d). The unspoken implication was that they were hesitant or unwilling to accept their identity as a student or an individual with a disability. Once freed from the typical high school special education supports provided by Individual Education Plans (IEPs), 504 plans, concerned teachers, and anxious parents, they had a natural desire to become more independent. What seemed equally apparent was that they were often willing to accept lower achievement in exchange for lesser degrees of social or academic stigmatization.

The general literature on postmodern stigma originates in large part with the issue of race and the Civil Rights Movement of the 1960s. The Civil Rights Movement did not exist in a vacuum, and was part of a larger movement concerned with individual human rights. The Feminist Movement grew during the same period, as well as the Gay Rights Movement. Many other marginalized groups organized and lobbied for equal access to the basic rights implied in the constitution. The Disability Rights Movement first garnered significant media coverage during this period, and culminated in Section 504 of the Rehabilitation Act of 1973, and the Individuals with Disabilities Education Act in
1975. When Section 504 loopholes became glaringly obvious, the 1990 Americans with Disabilities Act was passed to clarify protections.

During the seventies, special education in the K-12 environment grew as a natural outgrowth of federal legislation, and accommodations began to appear more frequently at the postsecondary level. The legacy of stigma, however, persisted. Ed Roberts (the late disability rights activist), for example, attended UC Berkley as a wheelchair bound student, and challenged the notion of the stereotypical college student. On a more practical level, informal evaluations and qualitative research indicated that even students who regularly sought out and utilized the accommodations and other supports available to them, often reported that they didn’t like to advertise the fact to other students or professors that they were different. They also frequently mentioned that their “otherness” was an issue they thought about all of the time. There was little doubt that it was impacting the quality of their postsecondary education experience.

The present study was suggested in part by quality of experience issues, and began with a sequence of qualitative interviews. Three students with learning disabilities were recruited for in-depth interviews, and asked to reflect on their perceptions about disability stigma. The students were selected as information rich cases and also to represent various genders, types of disability, and year enrolled in school. The design for the interviews incorporated a combination of structured and unstructured questions and included partnering with experienced researchers at Virginia Commonwealth University who specialized in qualitative research methods. The Institutional Review Board (IRB) at the study institution, Randolph-Macon College, waived the application for the study
since the research was related to program evaluation procedures already in place for the
disability support services (DSS) office.

The students were recruited, with guarantees of anonymity and confidentiality,
and three in-depth interviews were conducted. After the data were coded and sifted for
emerging themes, the results became clearer: the college students with disabilities who
were interviewed all felt that they were suffering from significant amounts of disability-
related stigma.

What also became clearer after the initiation of the investigation was that
individual students processed their disability identity very differently (Davis, 2002;
Goffman, 1963). In the words of Erving Goffman (1963), who authored the seminal
work *Stigma*, the students who were interviewed were struggling with the
"discrepancy...between [their]...virtual and actual identity" (p. 19). By this, he meant
that the students were likely having difficulty incorporating their status as a person with a
disability into their global personal identity. Each accepted his or her disability to some
degree, but were reluctant to fully embrace it, or in practical terms, to seek help or
accommodations for it. One student, for example, was comfortable talking about her
learning disability in private with a confidant, but she expressed great reluctance to talk
with professors "in the open" about her disability. In the words of Rosemarie Garland-
Thomson (2002), she struggled to maintain "the privilege of normalcy" (p. 4).

The results of the qualitative interviews necessitated a modification of the initial
research question. The question became, how much was disability-related stigma
impacting the social and academic lives of college students? Clearly, students were
experiencing stigma, but it was not clear to what degree. The literature on disability stigma proved rich in qualitative data, but very sparse in terms of quantitative data, or experimental studies that might speak specifically to the impact of disability stigma (Goldberg, Higgins, Raskind, & Herman, 2003; Olney & Brockelman, 2005). This was not surprising, given the intensely personal and sensitive nature of disability and the relative newness of disability as a topic for postmodern investigation.

Following an analysis of the qualitative interviews, a series of draft questions was devised, providing the preliminary basis for a self-report instrument to measure the degree of disability-related stigma that college students with disabilities experienced. Such an instrument was not immediately found in the literature, though instruments for measuring other kinds of stigma (gender, race, etc.) were readily accessible, including instruments related to the implementation of the ADA regulations (Berger, Ferrans, & Lashley, 2001; Hernandez, Keys, Balcazar, & Drum, 1998). The creation of the Postsecondary Student Survey for Disability-Related Stigma, hereafter referred to as the SSDRS, was the primary focus of this study.

Overview of the Study

The SSDRS began as a series of questions taken directly from the interview responses that the volunteer students provided (See Appendix A), and from the first examination of the literature. The purpose of the study was to determine whether postsecondary students with disabilities (defined as those who had formally disclosed to
the college or university) experienced measurable amounts of stigma related to their disability. Measurable levels of stigma would mean that numerical scores could be compared amongst and between groups of students, checked for variability, etc.

Instruments measuring racial stigma were adapted and applied to the measurement of disability stigma (Contrada et al., 2001; Dunbar, 1995; Swanson, Rudman, & Greenwald, 2001; Utsey & Ponterotto, 1996). A draft survey with Likert-type responses on a five point scale was composed (Adler & Clark, 2003; J. D. Brown, 2000; McMillan & Schumacher, 2006; Payne, 2003). The result was the initial version of the SSDRS, which after some additional refinement, was given on a pilot basis to students with disabilities who utilized disability support services at two different campuses: a small, private liberal arts college, and a large, urban community college. The resulting scores were analyzed for overall rates of perceived stigma, and in comparison between school types. The pilot results generally supported the theory that college students with disabilities do confront significant disability-related stigma (Ekpone & Bogucki, 2004; Jones, 2002), and led to further technical improvements to the instrument itself (See Appendix B for the final version of the SSDRS).

The survey went through continuous instrument review before each phase of the pilot and prior to the final data collection. This included review by doctoral students at Virginia Commonwealth University (VCU), critiques by survey methodologists and research professors at VCU, and review by undergraduate students at Randolph-Macon College who volunteered to “test” the survey. On each occasion, minor adjustments were made to individual questions, the formatting and appearance of the survey, and to the
ordering of items and organization of subscales. Each version of the survey consisted of twenty-four content questions, several demographic items, and five subscales representing specific domains related to disability stigma. The subscale scores combined to create a possible total stigma score between 0 and 96.

In each administration of the survey during the pilot study, students accessing services at DSS offices were asked to voluntarily complete a survey. If they agreed, a disclosure statement was read to them, or given to them to read. Each student had the option of completing the survey on the spot and returning it to the DSS representative, or taking a prepaid envelope and completing the survey on his or her own. Most chose to complete it immediately and turn it in.

The pilot survey results of the SSDRS were combined and entered into the Statistical Software Package for the Social Sciences (SPSS) version 13.0 for data analysis. Factor analysis was run to examine the organization of the subscales, to check for and/or confirm underlying variables, and to reduce the data. Specific reliability statistics were generated for the overall survey instrument, as well as for each subscale. After all of the pilot administrations, descriptive statistics were tabulated, as well as a total stigma score from 0 to 96 for each subject. The results were reasonably consistent across all pilot administrations of the survey. Several correlations between individual items were also examined to investigate specific stigma “stressors” or triggers.

Student participants were given access to the results of the pilot studies in aggregate format. Partial results of the complete study also appeared in several manuscripts and articles (Trammell, 2002, 2003b). The results of the pilot phase
reinforced the imperative for developing an instrument to measure disability stigma in college students, particularly as many students responded verbally after completing the instrument with positive comments, or an open interest in knowing the results.

Brief Overview of the Literature

The persecution of individuals with disabilities dates back to the dawn of recorded civilization (Abrams, 1998; Bonner, 1977; Halsall, 1998; UM, 2000). From the "otherness" represented by the Cyclops in Homer's Odyssey to the collection of human oddities gathered by the Roman Emperor Elagabalus (Garland, 1995), individuals with disabilities—particularly, visible disabilities such as Leprosy or Hunchback—have been viewed with both fascination and revulsion. Those with obvious disabilities, in particular, were denied the typical rights of citizenship. The earliest art, written records, and anthropological evidence all suggest that individuals with disabilities were often marginalized, ignored, or in some cases, killed outright (Covey, 1998; Garland, 1995). To be poor and disabled was a double curse, practically a guarantee of hardship and a shortened life.

With an average lifespan of less than forty years in the ancient world, the equivalent of today's eighteen year old college freshman with a visible disability would have faced many obstacles. The ancient equivalent of a dyslexic student, for example, if born into the lower classes, would have likely been barred from education, and quite
possibly consigned to a short life of menial labor. Disability stigma was a powerful force in pre-modern cultures.

From ancient times into the present, there have been many ways of viewing disability as a social phenomenon. The ancient Egyptians, for example, took a scholarly interest in disabilities, and were not without some forms of tolerance. The Greeks and Romans, on the other hand, practiced infanticide, and more often than not, viewed physical flaws as the worse type of curse that could befall a person (Copleston, 1985; Covey, 1998; PSU, 2002). Ancients tended to view disability variously as: divine punishment, the result of a stressed or cursed pregnancy, the result of mental shortcomings, or in some cases, as divine gifts with accompanying supernatural powers.

It is noteworthy that little was known or understood about what are now termed invisible disabilities, such as ADD/ADHD, or learning disabilities. Students with invisible disabilities such as these did not exist as a recognized sub stratum of the larger population of disabilities (Winzer, 1997). Some invisible disabilities, like depression, manifested themselves in outward behavior that was subsequently attributed to mental weakness, madness, or physical ailments.

During medieval times, the prevailing interpretation of disability was focused through the organized church (Covey, 1998). Maintaining the traditional Old Testament Biblical beliefs, those who exhibited physical disabilities, or the outward manifestations of an invisible disability such as madness, were judged to be guilty of sin, and in need of punishment and/or repentance (Foucault, 1965). The religious model for interpreting disability persists, unfortunately, into the present age. The height of this period saw a
rebirth of ancient superstitions, as well, which often accused those with disabilities of witchcraft or commiseration with the devil.

During the Enlightenment, the first serious scientific investigation of disability began. It was during this period that disability as a personal identity, or way of understanding self, as well as a more general recognition of the humanity of those with disabilities, first appeared as significant social and political forces. Schools for the deaf and blind were established, medical investigations related to genetics were initiated, and philanthropic efforts to improve the quality of life of individuals with disabilities arose during this time (Fleischer & Zames, 2001). It was also during this time, however, that powerful Eurocentric standards of “normal” and “abnormal” evolved (McPhail & Freeman, 2005).

As the 21st century unfolds, disability is recognized as an important new perspective through which to view the human body (Davis, 2002). With almost one in every five Americans personally confronting disability, and popular media portraying disability issues more often and more realistically, the issue of disability has never been so prevalent in the public eye. Never before have so many accommodations been available for various situations, from the workplace to private life. Students with disabilities at all levels are increasingly recognized as valuable members of the academic community.

The issue of stigma, however, remains a vexing problem. Whether in the public or private environment, disability continues to conjure up negative imagery, stifle
conversation, and promote stereotypes that are barriers to equal access. Disability, especially as manifested in physical deformities, still results in discrimination.

At institutions of higher learning, allowing accommodations for students with various types of disabilities, visible and invisible, has become a mainstreamed academic activity. None the less, there is a marked resistance or reluctance on the part of some students with disabilities to take advantage of various accommodations offered to them (Hartmann-Hall & Haaga, 2002). This is due in part to the persistent negative associations linked to the term “disability,” and more globally, with perceptions connected to receiving any kind of extra help or preferential treatment. Most disability scholars agree that stigma is perhaps the most important issue facing college students with disabilities (Levin & Laar, 2006; Longmore, 2003).

Rationale for the Study

College students with disabilities often report that their professors treat them differently (Brantlinger, 2004). They often report a strong need for affirmation (Olney & BROCKELMAN, 2005). They often feel that they are discriminated against in subtle ways that cannot easily be identified or that no appropriate sanction can remedy (Longmore, 2003). They also report fearing that other students will resent them, or overtly place obstacles in their way, if it is perceived that they are trying to gain some type of unfair advantage by using accommodations (JUVONEN & GRAHAM, 2001; MARSON, 2004).
Even if these perceptions are untrue or cannot be proven, the belief in them has a profound effect on students with disabilities. Students with disabilities often seek help at lower rates than other students due to stigma (Hartmann-Hall & Haaga, 2002). Research has also shown that even the simple fact of having a learning disability can place the student in a marginal position (M. R. Brown, Higgins, Pierce, Hong, & Thoma, 2003; Margalit & Levin-Alyagon, 1994).

The primary objective of this study was to develop a means of measuring stigma related to disability, so that further research could then be done to eliminate, control and better understand stigma effects. As long as college students with disabilities persist (stay in school and graduate) at lower rates than their peers without disabilities, experience greater academic frustration than other students, suffer personal hardship, and otherwise are held back by the social and academic consequences of their disabilities, there will be a need for this type of research.

The specific significance of the SSDRS study was that no other similar instrument previously existed to measure disability stigma in college students with disabilities. Part of the legacy of stigma has been that it was difficult to quantify, and therefore even more difficult to remedy. In medicine, to borrow an analogy, no reasonable remedy can be applied until a proper diagnosis has been determined. Likewise in the social sciences, change cannot occur until a problem has been identified, qualified and quantified, and acted upon. The SSDRS began as an effort to address the issue of identification and quantification of disability stigma.
Initial Research Question

The most important research question associated with this study was the question: Do college students with physical and/or psychological disabilities feel heightened and measurable levels of stigmatization specifically due to their disability? The initial hypothesis, based on the literature on stigma and identity, and on the results of the pilot study, was that students did experience measurable and significant stigma based on disability. A tested and validated instrument such as the SSDRS would enable further confirmation of the hypothesis, and could supply information that was not currently available from other sources.

The foundation of the SSDRS instrumentation traces its origins to race stigmatization research and other stigma instruments developed in the 1960s. Many researchers attempted to measure the “daily hassles” associated with racism or discrimination (Utsey & Ponterotto, 1996). Other researchers adopted a more subtle approach and examined not just stigma, but the degree to which individuals were conscious of stigma (Pinel, 1999). This body of work contributed significantly to the construct of stigma that the SSDRS attempted to quantify.

The development of the SSDRS was facilitated in part by a more specific subset of guiding questions, as well:

1. Do college students who disclose a disability feel significantly variable levels of stigmatization?
2. Can research determine types or seriousness of social consequences based on differing levels of stigma?

3. Do college students with disabilities—particularly invisible disabilities—feel that their disability impacts them significantly outside of the classroom?

4. Is there a significant statistical relationship between stigma consequences, such as academics and personal relationships, for example?

5. Do students at different types of institutions feel more stigmatized than those at other types of institutions?

6. Do students who feel stigmatized by their disability tend to adopt disability as a personal identity, or avoid doing so?

The most specific aim of this study was to investigate the psychometric properties of the SSDRS—i.e., the reliability of scores, internal structure, validity of scores, and generalizability of results. Construct validity was addressed through careful examination of the literature on stigma, and considering previous empirical attempts to measure other types of stigma. Construct representation was intentionally facilitated by linking each SSDRS item with a specific body of research that defined a meaningful element of disability stigma. Reliability and internal consistency of scores was secured through exploratory factor analysis, individual item analysis, inspection of descriptive statistics, and examination of correlations between items.

Both the research literature and cultural history strongly suggest that stigma impacts people of all ages and demographics, respecting no boundaries. The bigger question of “How is stigma related to disability?” was partially answered by asking s
smaller question: "How accurately and reliably do SSDRS scores represent actual
disability stigma effects?" The successful answering of that question would necessarily
lead to the further identification of the practical consequences of disability stigma for
college students, and foreshadow the types of programs, accommodations, and policy
shifts that might lead to a decline in stigma effects.

Design and Methods

The design for the study followed well-established procedures for instrument
development in a non-experimental, quantitative study: gathering information about the
construct of disability stigma, and in particular, locating stigma instruments already
developed and tested; creating a draft instrument; testing, piloting, and reviewing the
draft instrument; and finally, collecting a reasonable data set to verify the refined
instrument and be provide a platform for discussing the results (Dillman, 2000; Fowler,
2002; Litwin, 2003). While qualitative methodology was employed in the initial stages
of development in the pilot (student interviews), the primary design type was non-
experimental, and quantitative. The SSDRS was a paper and pencil questionnaire-type
instrument distributed by mail or by hand to students, who could complete it immediately
or return it later with a self-addressed stamped envelope.

The SSDRS was adapted from several effective and validated surveys created to
measure stigma based on race. These instruments included the Index of Race-Related
Stress or IRRS (Utsey & Ponterotto, 1996), the Implicit Association Test to investigate
attitude-behavior consistency for stigmatized behavior (Swanson et al., 2001), The Prejudice Scale or PR (Dunbar, 1995), the Stigmatization Scale (Harvey, 2001), and the ethnic stress research of Contrada and associates (Contrada et al., 2001). Like many of these instruments, the SSDRS used a five point Likert-type agreement scale in responding to each individual item.

The SSDRS was also designed so that students' scores on five different subscales would combine to create an overall stigma score. The higher the total score (with a possible maximum score of 96), the more stigmatized a student felt. Each possible response in the survey was weighted appropriately from 0 to 4, with negative questions scored in reverse, to keep the directional sum correct. The 24 questions on the survey were divided into five subscales, or domains, each of which was designed to measure a specific aspect of disability stigma, derived from the literature on disability and stigma. The constructs were: personal feelings (6, 8, 16, 24), global events (2, 3, 7, 21), academics (11, 13, 18, 22, 23), personal relationships (1, 4, 5, 9, 10, 19), and group identity (12, 14, 15, 17, 20). Exploratory factor analysis (EFA) was utilized to establish the validity of scores for these constructs after the pilot, and again after the final data collection to verify validity of scores. In both cases orthogonal factors were used, since there was an implicit assumption of some degree of interrelationship. Each of the five subscales represented a major research topic within disability studies or a related content area. The individual questions in each category were developed in part from previous qualitative research that asked specific questions within each construct, and from additional information in the disability stigma literature (Trammell, 2002). Several of the
questions were asked twice in an alternate or reverse form to help verify answer patterns and increase reliability of scores. Each subscale was represented by four to six questions.

The broad sampling frame was college students who had self-disclosed disabilities. The specific sample was drawn from populations of students with disabilities at three undergraduate and graduate institutions in Virginia: a small liberal arts college (Randolph-Macon College), a large two-year community college (J. Sergeant Reynolds Community College), and a large research university (Virginia Commonwealth University). All participants had previously self-disclosed their disabilities to the office of disability support services (DSS) at their respective institution. All participants were students who voluntarily completed a survey when they visited the disability support office, or took a survey with them and completed it later after visiting the DSS office.

Disability types included physical, medical, psychological, and learning disabilities. Later, the survey asked whether the student’s disability was visible or invisible. The SSDRS was originally designed to take into account the universal stigma related to both visible and invisible disabilities, as opposed to a specific kind of stigma associated with a specific disability. Much of the literature on stigma strongly suggests that stigma is a universal effect that stems from varying circumstances (Crocker, Major, & Steele, 1998; Crocker & Quinn, 2000; Levin & Laar, 2006). It works in a consistent fashion across types and severities of disabilities, and has similar patterns across social dilemmas (Goffman, 1963). All students in the three sample populations, regardless of disability type, had an equal opportunity and access to participate in the study, if they accessed DSS services.
Definition of Terms

For purposes of clarity, the following terms are defined as they applied to the investigation:

*Attention Deficit Disorder (ADD) and/or Attention Deficit Hyperactivity Disorder (ADHD):* Refers to any of the four types of Attention Deficit Disorder defined in the DSM-IV Manual: 314.01 ADHD Combined Type, 314.00 ADHD Predominantly Inattentive Type, 314.01 ADHD Predominantly Hyperactive-Impulsive Type, and 314.9 ADHD Not Otherwise Specified (APA, 2000).

*Disability:* Any generally recognized impairment, visible or invisible, that has social and academic consequences associated with it, and meets the Americans with Disabilities Act (1990) criteria of “Substantially limiting a major life activity.” For the purposes of clarity in the study, a student with a disability was further defined as any student registered with disability support services.

*Learning Disability (LD):* A specific processing disorder as generally defined by evaluators; i.e., either an intra-individual discrepancy, or a failure to respond to instruction (Loring Brinckerhoff, 2002; L. Brinckerhoff, Shaw, & McGuire, 1993).

*Learning-related Disability:* Any disability that directly impacts academic achievement (example: ADD/ADHD, LD, etc.).
**Stigma/Disability-related Stigma:** The perceived and real consequences attendant to having a disability, resulting in situations where an individual is unable to experience full social or academic inclusion.

**Normal/Normality:** Any condition or state where disability is not present or has no significant social or academic consequence. Note that normalcy can also be mimicked by hiding or denying a disability (and may result in unreliable results on a self-report instrument) (Davis, 2002).
CHAPTER II

Review of the Literature

To understand the challenges that students with disabilities face, it is necessary to briefly examine the broader context of disability stigma. A significant amount of research and writing has been done about the historical treatment of individuals with disabilities. Beginning with the ancient world and the work of writers such as Herbert Covey and Robert Garland, and moving into the modern era through the works of writers like J. David Smith, Michel Foucault, and Lennard J. Davis, there is a growing body of literature which confirms that disability is a multi-layered construct that strikes at the heart of the definition of the human condition, and what is “normal” (Covey, 1998; Davis, 2002; Foucault, 1965; Garland, 1995; J. D. Smith, 1985).

It is also necessary to examine the nature of past research into stigma, and more specifically, the types and functions of instruments devised to measure stigma. Many of the more evolved theories and measures of stigma were developed during the 1960s when social scientists investigated the consequences of racial discrimination. During the Civil Rights Movement, discussions about socially constructed ideas of “normalcy” became increasingly mainstreamed. The evolution of the SSDRS in many ways was a natural outgrowth of the myriad racial stigma instruments of the 1960s (Pinel, 1999; Utsey & Ponterotto, 1996).

Social scientists now widely accept that what is normal is in large part defined by the popular culture we live in, and the norms that are portrayed on television, in movies,
and in the print media. An ongoing fascination with monsters, aliens, and misfits ensures that what is normal or abnormal is clearly communicated to everyone, and also hints indirectly at the negative consequences of any type of "otherness" (A. G. Johnson, 2001; Kearney, 2003). The "otherness" of disability can in fact serve to effectively render individuals as strangers within their own communities, and strengthen power relationships that intentionally or unintentionally enforce discrimination (A. G. Johnson, 2001; J. D. Smith, 1995).

College students with disabilities, both visible and invisible, are in a transitional phase between the structured supports of high school and the adult world where complete independence is often required or expected. The postsecondary college environment is not free from disability stigma, and presents a conflict of identity for students with disabilities, who must decide whether or not to disclose their disability, and if so, who to share information with (Anonymous, 1998; Price, Gerber, Mulligan, & Williams, 2005; Torkelson & Gussel, 1996). In some ways, disability can render college students with disabilities "invisible" (A. G. Johnson, 2001).

This study focused on the negative impact of stigma on college students with disabilities who had self-disclosed, particularly as it framed their task of managing personal information (Goffman, 1963). The Student Survey of Disability Related Stigma (SSDRS) was developed specifically to measure the amount of student perceived disability stigma.
Overview of the History of Disability and Stigma

Stigma comes from the Greek word for mark or tattoo, and is closely connected to the ideals for personal character that philosophers like Plato and Aristotle spent much time debating in their writings (Adler & Clark, 2003). A person “with the mark” in ancient Greece was excluded from “normal” life. Many scholars presently believe that the disgrace or stigma associated with a disability is more dire than the disability itself (Covey, 1998; Crawford, 2002; Crocker et al., 1998; Davis, 2002). In the ancient world, no such distinction was made.

College students with disabilities have the additional burden of coping with this stigma in the nether regions between the comfortable supports of childhood and the challenging autonomy of adulthood. The prescribed support structures they counted on in high school are no longer there to shape them or to buoy them during a crisis (Clarke, 1992; Goffman, 1963; Janiga & Costenbader, 2002; Karp, 1999). The stigma they confront may seem very modern in one sense, but in another sense is part of a general disability stigma that has been remarkably unchanged for many thousands of years.

Disability was common in the ancient world across cultures, though there were notable differences in how those with disabilities were treated. In ancient Israel, for example, those with obvious physical disabilities were commonly labeled unclean, and forced to live away from the primary population centers (Abrams, 1998). The archetype of the Israelite priest as a “perfect” or clean male, made in the image of God, reinforced this stereotype. Conversely, the notion of scapegoat firmly reinforced the “otherness”
that disability or outsider status relegated to certain peoples. The oldest of the Jewish stories emphasize a pattern of typecasting—Samson’s blindness due to sin; Jacob’s wounding as he wrestled with God—accounts that clearly show disability as a divine form of punishment, or a consequence for pride or vanity. Gradually, however, as time passed and the Jewish state as a political entity rose and fell, and the Diaspora resulted in theocratic fracture, views about disability moderated, and modern Jewish interpretations of social norms do attempt to place those with disabilities on a more equal footing (Abrams, 1998).

There are scattered examples, both good and bad, of disability issues in Egyptian and Mesopotamian written records, though it is to the Greeks and Romans that western culture most owes both a debt, and a regret, in terms of disability rights. The same tradition that bequeathed the idea of democracy and representative government, also provided physiognomy, the science of judging people based on their exterior appearance. This unfortunate belief ultimately led to Social Darwinism, manifested in eugenics programs in states like Virginia, and the wholesale murder of individuals with disabilities under Nazi rule in Germany (Covey, 1998). The ugly traces of physiognomy remained alarmingly prevalent in post-Enlightenment thinking, and still persist in the present (Garland-Thomson, 2002; Shakespeare, 1997).

The notion of the Greek ideal was no mere metaphor, but a clear social judgment against those with physical imperfections, the legacy of which remains entrenched in Western culture (Susman, 1994). The crippled fire god, Hephaistos, is the quintessential example of the “otherness” the Greeks assigned to those with disabilities. In spite of his
supernatural powers and gifts, Hephaistos remained an outsider amongst his fellow gods (Garland, 1995).

Individuals with disabilities, particularly those with visible disabilities, are still judged by their outward appearance in the present time, and suffer various consequences as a result. In particular, college students with visible disabilities suffer from the ideal archetype for physical appearance so often portrayed in the popular media (Garland-Thomson, 2002; Shakespeare, 1997).

There have always been small minorities of individuals who recognized the unjust consequences of physiognomy. Though Rome was by no means a free society for everyone, an increasing egalitarianism crept into her institutions over time, paralleled by the liberalization of the definition of citizenship. Education of women, the poor, individuals with disabilities, slaves, and even non-citizens is documented in primary source material with increasing frequency until the collapse of the civil government in 476 A.D. A significant number of laws were incorporated to regulate the disabled, some of which were enlightened and tempered with justice. To be sure, life for the vast majority of ordinary citizens (and non-citizens) in the Roman Empire remained throughout a cruel, dangerous, and often illiterate affair. Yet the rule of law grew steadily (and the number of lawyers exponentially), and the seeds of modern liberalism were increasingly visible. Even slaves, perhaps the lowest class in Rome, were protected and governed by an elaborate code of laws.

Since the general population of people with disabilities (physical, cognitive, and emotional) has been a fairly consistent proportion of the world population since the
beginning of recorded history, probably fluctuating between five to ten percent or more of the total population, there can be no doubt that many people with disabilities, both visible and invisible, were present in Greece and Rome (Garland, 1995). The ancients had only crude ideas about the functioning of the brain, however, and most primary source material related to disabilities focuses on people with physical or visible disabilities. Those with invisible disabilities (cognitive or psychological disorders) manifested outward behaviors that were often misunderstood, and as a result were often severely punished or ostracized rather than treated or accommodated.

In general terms, the ancients labeled those with disabilities variously as: subhuman, gifted, evil, pitiful, scapegoats, entertaining, and beggarly. They assumed or understood disabilities to be caused by divine judgment, magic, imbalances in the body, war wounds, or aging (Covey, 1998). Even crediting the Greeks with inventing science and democracy, and the Romans with fostering nobility of character, it seems a gross juxtaposition to place their loftier cultural ideals side by side with their crude perceptions of those with disabilities. Seneca reports that the Greeks often laughed at those with physical disabilities. Romans often bought slaves with disabilities purely for their entertainment value. Some Roman emperors, such as Elagabalus, boasted of their international collection of human oddities (Garland, 1995).

For all of these reasons it might seem difficult, perhaps even unlikely, to establish a relationship between the ancients' views on disabilities, and our modern attempts at a universal system that enfranchises all students with disabilities and accommodates them appropriately. Yet the connection exists, stemming from single incidents of human
compassion all the way to sweeping reforms that seem remarkable in historical context. Stigma, a very old Greek term used to exclude, is actually the enabling link that draws these disparate events together and lends hope for inclusion.

For sociologist Irving Goffman and other scholars of identity theory and the effects of labeling, stigma is the bridge between what people are expected or perceived to be and what they actually are (Angermeyer & Matschinger, 2003; Erikson, 1972; Goffman, 1961, 1963; Longmore, 2003). Even when individuals are able to conceal their disability, stigma remains a matter of information management. When individuals become stigmatized, the social distance between people increases, and behavior changes as a result of an impression, rather than a concrete reality (Angermeyer & Matschinger, 2003).

Historically, the link between the mind and body has been implicit, but not well understood. For this reason, physical defects were often associated with mental defects, such as in the case with deafness and dumbness. A Greek story tells of Kophos, a youth who was deaf and dumb, who saved his father’s life by shouting out to him at a moment of crisis. This story seemed to imply the recognition of redeeming qualities in those with physical or mental disabilities, and yet other stories, such as the Homeric episodes of gods overtly making fun of cripples, seem to imply the very opposite.

Many scholars would concede that young men and women have suffered for the past two or three millennium from the same variety of learning and learning-related disabilities that modern youth struggle with in the present time. Until recently, however, those disabilities were invisible, and unrecognized. The scientific study of ADHD, for
example, did not begin until 1902 with the work of George F. Still, yet Alexander the Great has been posthumously diagnosed with the disorder, as well as Thomas Edison and others, and frequent accounts of young students needing lessons repeated over and over again is at least partially an indication that the Greeks were unable or reluctant to recognize individual learning differences that did in fact exist (Hartmann, 2003; Resnick, 2000).

Nor did the end of the middle ages and the subsequent flowering of the Enlightenment witness dramatic changes in how individuals with disabilities were viewed or treated (Covey, 1998; Foucault, 1965; Karp, 1999). In fact, a growing fascination with empiricism led to a rejuvenated medical model that firmly entrenched the idea that the way to overcome a disability was to cure it. The organized church was a vehicle for both accommodation and persecution, and even as its power ebbed, the ideas that fueled its doctrine remained solidly in place. The church persecuted mercilessly the enemies of the religious structure; witches, sorcerers, clairvoyants, and seers were often burned at the stake, tortured, or imprisoned after show trials. Ironically, those types of activities had been some of the few vocations open to many people with disabilities in ancient Rome and Greece.

When universities were established in major cities like Paris, Nuremburg, Rheims, and London, students with disabilities were not openly prohibited. The universities tended to attract students from a variety of backgrounds, and since classes (as such) were very small, it is likely that some students with “invisible” disabilities were educated there, particularly those from more affluent families. Students from less
wealthy families were reliant on having exceptional intellectual or creative gifts to draw the attention of a benefactor. In Spain, where hereditary deafness was prevalent in the royal bloodline, some of Europe's first "special" schools were organized.

The effects of stigma during the middle ages are poignantly portrayed in a famous painting, *Ship of Fools*, by Hieronymus Bosch (Covey, 1998; Foucault, 1965). The ship of fools legend centered on the expulsion of unwanted people, including individuals with visible (or suspected) disabilities, from northern European towns and cities. According to a number of historical sources, ship captains were hired to take these unwanted citizens away on boats, and told not to return with them. What happened next was sometimes up to the ship’s captain—the helpless passengers might be dropped at the next town or city (as some published complaints from those cities document), they might be sold into slavery or in extreme cases, they might simply disappear. Whether the stories are exaggerated or completely factual, there is no argument that they reflect the poor conditions and persecution that many individuals with disabilities were subjected to at the time.

By the end of the Enlightenment, however, the average station in life of many individuals with disabilities began to slowly improve. Schools for the deaf and the blind were established more widely, hospitals for the mentally insane grew in number (and treatments gradually became less destructive), and scientific study of disabilities began in earnest. Stigma shifted from derision to pity in many cases, though arguably the social consequences remained primarily negative.
The lingering effects of stigma as it came through the middle ages and into the modern era have been preserved in the form of language. Mutus (Latin for dumb). Teras (Greek for deformed). Idiot (Middle English for dumb). Imbecile (18th century French for stupid). Gimp (1920s U. S. for handicapped). These are just a few of the derogatory terms that have come down through the ages to describe persons with physical or mental disabilities (Covey, 1998; Foucault, 1965).

In America, the Rehabilitation Act of 1973 was a watershed event for disability rights, and equal access. Section 504, in particular, which granted individuals with disabilities equal access to programs that received federal funding, had immediate and far-reaching consequences for postsecondary students with disabilities. A lawsuit in 1977 aided compliance by forcing the issuance of specific regulations to enforce the act. Litigation also broke new ground in relationship to access of public transportation. Still, students with disabilities at private institutions lacked full protection under the law (Fleischer & Zames, 2001).

The passage of the Americans with Disabilities Act in 1990 closed many of the loopholes in Section 504, and paved the way for the creation of disability support offices at nearly all colleges and universities. Litigation again proved necessary to develop the non-specific ideas in the legislation. The 1999 Olmsted v. L. C. and E. W. case is characterized by disability historians Doris Zames Fleischer and Freida Zames and others (2001) “as a defining moment for the ADA” (page 103). The case determined that integration, rather than separation, was often the most effective, fair, and justifiable
philosophy when accommodating individuals with disabilities (Fleischer & Zames, 2001).

Unfortunately, legislation did not end the stigma attached to disability, nor address the other invisible obstacles that many college students with disabilities continue to face. While students increasingly received the outward accommodations they needed, the traditional barriers associated with stigma remained solidly in place, sometimes very little different from those suffered during much earlier periods of history.

The present Disability Rights Movement came about only in recent times, beginning in earnest in the 1960s concurrently with other important social identity movements. The Americans with Disabilities Act (ADA) represented a break from social tradition, a turning point in how individuals with disabilities were protected under the law. What is still painfully apparent in the short time since its passage, however, is that disability stigma is alive and well (Davis, 2002; Longmore, 2003; J. D. Smith, 1985).

The current view of disability is a complex mixture of science, medicine, religion, psychology, and even some lingering superstition. Disability remains a slower partner of the other great social movements of the 1960s—the Civil Rights, Women’s Rights, and Gay Rights movements (Fleischer & Zames, 2001; Longmore & Umansky, 2001).

Some scholars see the movement as subordinate to the other social movements that preceded it. Critics of the Disability Rights Movement have even predicted the moral bankruptcy of the public schools, fundamental loss of power by management in the workplace, and a spiraling invention of new disorders and conditions that will threaten the very fabric of “normalcy” in America (Garland, 1995; O’Brien, 2001). Others
historically doubt the ability of the public schools to ever meet all individual student needs, or question the notion that equality of input results in equality of opportunity (Tyack, 1974).

In reality, the proportion of the population suffering from various types of disabilities has been significant and consistent (roughly 5 to 10% or more) for several thousand years of recorded history (Garland, 1995). As many as 50 million or more Americans currently report themselves as having a disability. The majority of Americans view legislation for disability rights as a democratic process that preserves a healthy “Tension between individualism and normalcy” (O’Brien, 2001). Many others see an unbreakable link between citizenship in a democracy and universal education (Anderson, 1988; Bellah, Madsen, Sullivan, Swidler, & Tipton, 1991; Dewey, 1916).

College students with disabilities have often been unaware of the complicated and cruel history that has placed them in the position they are in, where stigma metaphorically makes its mark. What they have said when interviewed, however, is that they don’t want to be treated differently from anyone else, and that the consequences of disability as they perceived them are myriad and almost universally negative (Frank, 2004; Goldberg et al., 2003; Owen, 2004; Trammell, 2002).

The purpose in designing the SSDRS was to attempt to quantify what for thousands of years had been known to exist, but had never been accurately quantified, measured, or critically tested. In doing so, the dialogue about college students and disabilities was hoped to take another meaningful step forward.
Models for Understanding Disability Stigma

The larger problem being addressed with the SSDRS is the problem of disability. The passage of the Americans with Disabilities Act in 1990 only heightened awareness of the controversial issues related to disability, rather than solving them. Dating back to prehistory, individuals with disabilities have been denied equal access to many aspects of daily life, including full access to postsecondary or advanced education (Abrams, 1998; Covey, 1998). Full access to higher education must include, by definition, the elimination to the extent possible of imagined or real barriers, including disability-related stigma.

Historically, the primary frameworks for interpreting disability have been: superstition, religion, medicine, science, social science, and most recently, personal identity theory (Corrigan, 2005; Covey, 1998). In the present time, those who primarily subscribe to the medical and scientific frameworks tend to view disabilities as disorders (and thus as treatable, or curable), while those who favor the personal identity or sociological framework tend to be more postmodernist in temperament, and emphasize issues related to access, equality, and social acceptance (Hartmann, 2003; Harvey, 2001). There is a healthy tension between these dichotomous views that informs much of the current disability scholarship (Hartmann, 2003; Kearney, 2003). In general terms, the majority view of disability has gradually moved in fits and starts from one of judgment and persecution, to one of interpretation and assimilation (Fleischer & Zames, 2001; Harvey, 2001; Hernandez et al., 1998).
The current interpretation of disability has moved significantly toward a postmodernist model that includes several important sociological approaches (Harvey, 2001; Kearney, 2003; O'Conner, Young, & Saul, 2004). In Lennard Davis’ *Bending over Backwards*, the hypothesis is put forward that disability is not just one of several identities from which the human experience can be studied, but perhaps is *the* identity which defines postmodernity, and challenges all notions of “normality” (which may, arguably, be more accurately termed “normalcy”) (Davis, 2002). Doris Zames Fleischer and Freida Zames, disability scholars, state that: “‘Handicapism’…is the only ‘ism’ to which all human beings are susceptible” (Fleischer & Zames, 2001). There is an urgency in studying disability that is perpetuated by the universal possibility that anyone may become disabled at any time. Identity theory, borrowed primarily from sociology and psychology, provides a primary means of understanding disability stigma (Erikson, 1972; Goffman, 1963; McClafferty, Torres, Mitchell, & Apple, 2000). Identity theory studies the degree to which individuals knowingly acknowledge their disability, and act accordingly.

While postmodernism, or the interpretation of self through individual identity or identities such as gender, sexual orientation, or disability, is a framework that sheds light in areas of the human experience that have never been properly investigated or elucidated, it is also a framework that comes with limitations, and measurement issues related to validity of scores. The usefulness of an empirical approach that can only be fully understood by those who are members of that population creates a significant limitation for generalizability, and also limits by association the actions that can
realistically be taken by a society as a whole to address real inequities that do exist.

Noted educational researchers like D. C. Phillips and Nicholas C. Burbules take a more circumspect approach, suggesting that traditional "scientific" research (modernism and empiricism as coined after the Enlightenment) can and must still be utilized, if not side by side with postmodernism, at least acknowledging the current research landscape, which is heavily skewed toward what they call postpositivism, and the idea that there can be no absolute findings in social science research (Phillips & Burbules, 2000).

For this study, it is appropriate to note that the effects of stigma span disciplinary frameworks, and are generally accepted by all social science researchers as impacting individuals with disabilities (Harvey, 2001; Kearney, 2003; R. M. Smith & Erevelles, 2004). To cite one example, medical doctors treating ADD/ADHD view medication as the primary intervention, while some psychotherapists and counselors believe that cognitive retraining, or other neurological interventions can be more effective and have fewer negative side effects (Hartmann, 2003). All of the experts acknowledge the negative impact of ADD/ADHD stereotypes: the student who is presumably distracted, lazy, unmotivated, and disorganized. The important point for this study is that the stigma effects span disability frameworks, even though they occasionally are obfuscated in academic wrangling (O’Conner et al., 2004; R. M. Smith & Erevelles, 2004). A larger disability stigma transcends type of disability or other individual factors, and is the larger issue that needs to be addressed.

General research on stigma—whether it be based on race, sexual orientation, gender, religion, political view, or disability—shows a consistent pattern of labeling and
social consequences (Crocker et al., 1998; Goffman, 1963; Hinshaw, 2003; Jones, 2002; O'Conner et al., 2004). Whether the perspective be postmodernist, or a more traditional sociological approach such as Group Theory, there remains a consistent need for research designs that use rigorous methodology and utilize established methods of statistical analysis (Hughes, 2005), and most importantly, acknowledge the oppression and discrimination still suffered daily as a result of disability stigma.

This study combines a philosophical partnership between identity theory, traditional empirical inquisitiveness, and postmodernist skepticism. The research premise does not center just on whether a disability stigma effect exists, but also on how pervasive it is, and how it can be effectively quantified and acted upon. By implication, many practical changes in education policy and college student support may be possible as a consequence. For example, information gained from the SSDRS may indicate that disability support offices need to focus as much on the disability climate on campus as they do on practical academic accommodations.

Theoretical Framework for the SSDRS

Being stigmatized, according to Crocker and Quinn (2000), consists of having “A social identity, or membership in some social category, that raises doubts about one’s full humanity” (p. 153). There are many social conditions, disability being only one, which can lead to stigmatization. Crocker and Quinn argue that the effects of stigma are not easily predicted or measured, and reject the so-called looking-glass self theory that links
self-esteem and stigma. Instead, they see the effects of stigma coming out of a social negotiation that evolves according to the dynamics of a specific situation. For example, Crocker and Quinn found in one study that the perception of being overweight was significantly related to reported belief in the Protestant ethic, depending also on whether or not the subject felt they had control over their weight (Crocker & Quinn, 2000). These results reinforce the fact that measuring social behavior requires accounting for the myriad and complex interactions of many variables, and even when done well, can never fully explain a phenomenon. Crocker and Quinn also believe that individuals can experience stigma even when outside agencies are not discriminating against them, simply because of the “collective representations” they have as part of their identity (p. 178).

The effects of stigma have been studied widely in the last fifty years, particularly as they relate to race and the Civil Rights Movement of the 1960s (Ayers, Dohrn, & Ayers, 2001; Houck, 2005). More recently, stigma effects that relate directly to disability have come under closer scrutiny (Lakin et al., ; Olney & Brockelman, 2005; Samuels, 2005; Tremain, 2005).

While students with disabilities are making progress in transitioning to postsecondary education (Samuels, 2005), there are still significant barriers in place that directly relate to issues of stigma (Olney & Brockelman, 2005; Torkelson & Gussel, 1996; Trammell, 2003c). The post facto evidence is found in graduation rates for college students with disabilities, which consistently lag behind those of their peers without disabilities. Stigma related to disability remains a relatively misunderstood and
understudied phenomenon, particularly since many people are unaware of the legal changes affecting students when they graduate from high school and are subsequently covered under the Americans with Disabilities Act (1990), rather than the Individuals with Disabilities Education Act (1975).

Irving Goffman’s work in the late 1950s and early 1960s laid the groundwork for postmodern views of disability stigma. In his book, *Stigma*, he suggests that the mental or physical evidence of disability is less important than the “disgrace” associated with it (Goffman, 1963). He goes on to define stigma as the “discrepancy between virtual and actual social identity” (p. 3). This identity can involve a physical disability, a cognitive or psychological disability, or what Goffman calls a tribal stigma related to ethnicity or beliefs (p. 4).

According to Goffman’s theory, which borrowed heavily from group theory and helped establish what is more recently called identity theory, there will be tension in any encounter where a “normal” person interacts with a “stigmatized” individual (Erikson, 1972). The tension will affect both parties, whether they acknowledge it or not, or even if they are not fully aware of it. In the case of college students with disabilities, this means in practical terms that their virtual identity (which includes the literal or physical attributes of disability) will be challenged or called into question any time they are forced to seek accommodations, or feel compelled to share information about their disability. Many students are shocked when they find out that college professors have learning disabilities, too. The students often assume that because of their disability they don’t deserve to have reached as far as they have in their academic careers, and that they are
significantly different from their peers or their professors. They have already assigned themselves "otherness."

College students are required and expected to interact on many levels with professors and other students, whether they are disabled or not. For students with disabilities, maintaining a harmony between their virtual and social identities becomes a critical issue, requiring a delicate type of information management. If they can successfully control what others know or assume about them, then they can theoretically limit the stigmatization due to their disability. The problem, or challenge, is that students leave a familiar social and academic environment when they graduate from high school, and enter a largely unknown environment where the rules are different, often at some distance from friends and families. In one sense, they leave a primary personal identity behind, and have to start over again by creating a new one. This also means that he or she must make difficult and urgent decisions about how to disclose or communicate about their disability, or in Goffman's terms, they must decide whether or not they will even maintain a disability identity (Price et al., 2005; Torkelson & Gussel, 1996). If their disability is a visible one, part of the decision has already been made for them.

According to Goffman, it is typical human behavior to learn to "pass" as a normal person (p. 80). This requires learning what normal behavior is, and learning how disability is not normal. Once both of these aspects are understood, the individual can regulate the information he or she shares with others so that he or she can "pass." With overt physical disabilities, this may actually require a significant effort in hiding the disability, or choosing to completely ignore it. However, the more complicated the denial
or concealment becomes, the more difficult information management becomes, and the more likely the negative effects of stigma become. Even the perception of stigma can lead to stigma effects (Levin & Laar, 2006). Identity issues must inevitably arise.

For students with invisible disabilities, the concealment may seem to be easier at first, and can often become permanent as long as no immediate challenge or crisis arises. Students with ADD/ADHD, for example, may for various reasons choose not to disclose their condition when they go to college. They may, in fact, initially do very well. They may gradually abandon their identity as a person with a disability unless a crisis of some type abruptly forces it back into the forefront: a failed exam, a less than stellar job review, or a strained personal relationship, for example. At that point, a problem that is mostly manageable for a “normal” may become a serious crisis for the “stigmatized” (Goffman, 1963). The “routine cycle of restrictions” he or she had hitherto managed so well, can suddenly become a collapsing house of cards (p. 91). Many college students choose to take their chances without disclosing. Those who do disclose often pay a penalty, both socially and academically (Corrigan, 2005; Owen, 2004; Price et al., 2005; Torkelson & Gussel, 1996; Trammell, 2002).

It is important to note the global nature of disability stigma, and/or stigma effects. Many other problems potentially mislabeled as “causes” can be seen as being subsumed beneath the overarching construct of disability stigma. For example, many of the practical struggles individuals with disabilities have faced have been linked to low self-esteem, lack of confidence, or poor self concept (Bakker & Bosman, 2003; Crocker & Quinn, 2000; Hoehn, 1998, 1999; Price et al., 2005). In the qualitative interviews
conducted during the pilot phase of the SSDRS, students exhibited poor self-advocacy skills and a lack of sophisticated self-determination skills (S. Field, Sarver, & Shaw, 2003; Trammell, 2003d).

However, there is conflicting evidence on whether such traits are a causal link to disability stigma, or an effect of an a priori condition that relates to both (Crocker & Quinn, 2000). In this study, such character traits and self factors are not assumed to be causal, but instead are seen as co-morbid effects related to a greater global disability stigma that spans types of disability (visible or invisible), age ranges, gender differences, and other demographic characteristics (Levin & Laar, 2006). This approach is consistent with mainstream social psychology interpretations of stigma, and explains much of the sociological research on stigma that relates to disclosure and information management (Crocker et al., 1998; Crocker & Quinn, 2000).

Disability stigma is a construct that spans disciplines, though it has long been studied by psychologists, and more recently, by sociologists (Blascovich, Mendes, Hunter, & Lickel, 2000). Most researchers accept that disability stigma has a cognitive and an affective element, and involves the motivational states of threat and challenge. Because of the “fight or flight” nature of some stigma effects, some researchers such as Crocker (1998) believe that physiological studies of stigma can be more useful than self-report measures (page 313). However, many types of stigma effects are passive in nature, and do not result in immediate physiological reactions. For example, an instructor may pick out a text that is particularly difficult for a student with dyslexia, where there is no intentional discrimination, but the student’s growing frustration can quickly lead to
other types of stigma effects. Traditionally, stigma has been studied using self-report measures and/or qualitative interviews, and approached from sociological perspectives (Levin & Laar, 2006).

The SSDRS was designed from a broad sociological perspective that defines stigma as a factor in identity construction, and as a means of social exclusion (Anagnostopoulos, 2006). Recent sociological research refers to this type of research as "boundary work," or studying how people draw boundaries between each other and make classifications of people (page 8). Anagnostopoulos (2006) has argued, for example, that students create their own school identities to help explain their success, or lack thereof. When circumstances challenge that identity, such as when a successful student is demoted, identity crisis or internal tension modifications can result. She goes on to say that such tension results in identity negotiation and contestation (page 22). Worse yet, the heavy administrative hand of schools can impress an identity onto a student forcefully, as when students are retained.

The SSDRS was designed with the assumption that global stigma effects stem from myriad sources, but often manifest themselves in uniform types of threats to self identity (Goffman, 1963; Westbrook, Legge, & Pennay, 1993). These threats specifically impact personal relationships, personal feelings about self, external interpretation of global events, academic achievement, and identification with the larger disability community. These categories are somewhat analogous to Rosemarie Garland-Thomson’s four aspects of disability: interpreting difference, disability and environment, social norms, and identity (Garland-Thomson, 2002). The SSDRS was designed to measure
both an overall impact of stigma and the effect of stigma on specific aspects of college life that are accepted as universal to all students (ex. interacting with other students).

College Students with Disabilities and Stigma

Recently, researchers such as Olney and Brockelman (2005) have examined disability stigma and its specific impact on college students (S. Field et al., 2003). In an extensive qualitative investigation, Olney and Brockelman found that students with disabilities expressed a strong need to clarify their personal identity within social circles. They also found differences between gender, and type of disability, that directly affected how self-identity was perceived, as well as a larger stigma effect.

People with disabilities of all ages must confront some level of stigma, and for young adults in college, the stigma of disability can be a particularly vexing issue to confront. Stigma that college students with disabilities face can best be defined as the perceived social and academic consequences of having a disability (Covey, 1998; Crocker et al., 1998; Goffman, 1963; Trammell, 2002). The consequences can be diverse and profound. College students with disabilities may feel any of the following: their professors treat them differently; methods of assessment don't measure their true mastery of content; other students will view them as having an unfair advantage when they use accommodations; that people will view them as academically deficient, or as unworthy of an opportunity. Whether the perceptions have any merit or not, they do have real
consequences. Susman (1994) makes this point clear: "It is the perceptions of disability, not an immutable reality, which explain the experiences of disabled individuals" (p. 21).

This is also demonstrated by the fact that students with disabilities sometimes seek help at lower than expected rates (Hartmann-Hall & Haaga, 2002), particularly when they feel higher levels of stigmatization. The effects have also been measured in younger children with LD, with researchers such as Bakker and Bosman (2003) reporting that the label "learning disability" in and of itself seems "to place them in a marginal position (p. 3). "Names are powerful," to quote Meredith Warshaw (and many others), and the consequences of being disability labeled are often negative (Warshaw, 2006).

Other researchers have confirmed the variety of consequences that are associated with college students and disclosure of a disability (Torkelson & Gussel, 1996; Westbrook et al., 1993). In a recent qualitative study, Lynda Price and colleagues (2005) found that adults with learning disabilities (including college students) consistently underreported (disclosed) their disabilities due to the social and practical risks. Even an invisible disability as seemingly innocuous as mild ADHD, can have myriad unexpected social and academic consequences (Antshel, 2005; Hinshaw, 2003; Jahoda & Markova, 2004).

The initial design of the SSDRS incorporated five elements of disability stigma that college students with disabilities are likely to experience. These included the impact of disability stigma on: personal feelings (which can include traditional measures of self-esteem, etc.), global events (which have to do with broad transition issues, such as living away from home for the first time), academics (which specifically refer to any issues
related directly to academics), personal relationships (which focus in particular on social relationships in the college environment), and group identity (which includes how college students with disabilities generalize themselves to the universe of people with disabilities). These five domains, when combined, represent an overall picture of the impact of disability stigma on the social and academic life of college students with disabilities. The use of the five subscales also allowed for the variation in stigma between individuals with visible or invisible disabilities, gender effects, etc. that is suggested by some previous researchers.

Personal Feelings

Margalit and Levin-Alyagon talk about the “Loneliness Experience” of K-12 students with learning disabilities (2002), and speak of the least restrictive environment also being the least stigmatized environment. Providing an environment without stigmatization is difficult, however, and even more complicated to quantifiably measure in a positive or negative direction (Margalit & Levin-Alyagon, 1994). It is particularly difficult at the postsecondary level, where the ADA is in effect, rather than the more prescriptive IDEA, to gauge to what degree students feel comfortable with their disability identity. One potential measure, theoretically, would be to determine the percentage of college students with disabilities who actually disclose to the college or university and become eligible for accommodations.
Many studies have revealed that college students with disabilities consistently report stigma as impacting their education in and out of the classroom, particularly as it relates to their private feelings about themselves and others (Clarke, 1992; Crocker & Quinn, 2000; S. Field et al., 2003; Olney & Brockelman, 2005; Trammell, 2002, 2003c). The immediate academic consequences can have long-term self-esteem effects, as students report (or perceive) that professors sometimes grade them differently, have different expectations, or even give them less help because they have a disability. On a deeper level, students report being uncomfortable discussing their disability with peers, and being reluctant to talk to any other adults on campus. They often report being ill at ease in the DSS office (which in effect is an information transaction where they may give up some personal control over sensitive information). Research also confirms that students with learning disabilities (LD) have difficulties with social relationships in part due to the nature of their disability (Wiener, 2002), and moreover, that students with learning disabilities also tend to be at risk for general frustration when repeated academic success is elusive that can lead to emotional problems.

Classic definitions of stigma make reference to a process of internalization, wherein an individual must eventually confront the negative images, or consequences of a “marked” characteristic (Crocker et al., 1998; Goffman, 1963; Green, 2003). The result can be an individual who is living under a constant “stereotype threat,” and where the consequences of being labeled are known, will be avoided at all costs (Green, 2003). If the threat is present continuously, and for a long enough period of time, it may lead to
psychological disengagement, or in simpler terms, denial of disability as a personal form of identity.

From an emotional standpoint, almost all of the consequences of stigma are undesirable, or negative. Even where discrimination is not present, the threat of it can lead to behavioral changes that are not normally considered healthy. In spite of this, there is some evidence that prejudice against stigmatized groups does not necessarily result in lower self-esteem (Crocker et al., 1998). There is evidence, as well, from studies of special education classrooms that K-12 students don’t necessarily suffer lower self-esteem as a direct result of disability labeling (Bakker & Bosman, 2003). This may, in fact, be due to an inadequate operationalization of the construct of self-esteem.

On the other hand, there is ample evidence that placement in special education classes can lead or contribute to alienation, and thus place students at more risk for dropping out of school (M. R. Brown et al., 2003; Green, 2003). There is also evidence that serious childhood illness can significantly alter a child’s personal identity (Fleitas, 2000).

For college students, the effects of disability or serious illness from childhood are not likely to disappear when they go on to postsecondary education (Goldberg et al., 2003). If anything, students’ sensitivity to issues related to disability is likely to be heightened in the new and unfamiliar environment. There is evidence that if other people within their inner circle (students, professors, friends, etc.) display negative attitudes about disability, students with disabilities are much less likely to seek help or accommodations (Hartmann-Hall & Haaga, 2002; Trammell, 2003c). This is particularly
true if they are diagnosed with a psychological disability (Ekpone & Bogucki, 2004; Eudaly, 2002; Hinshaw, 2003). They are also less likely to have the skills for transition that their non-disabled peers have, particularly what is called self-determinism or self-advocacy (S. Field et al., 2003; Janiga & Costenbader, 2002).

Part of the purpose in the development of the SSDRS was to measure the degree of stigmatization related to personal feelings or self-concept; to capture the degree of “loneliness” felt by college students with disabilities (Jahoda & Markova, 2004). In spite of the mixed empirical findings about self-esteem and disability, there is abundant evidence that college students with disabilities are likely to suffer emotional hardships associated with their disability (Olney & Brockelman, 2005; Olney, Brockelman, Kennedy, & Newsome, 2004; Reiff, 2004). There are programs or interventions in place at the postsecondary level that attempt to address hardships for students who self-disclose, some of which specifically target self determination as the key to success (S. Field et al., 2003; Reiff, 2004). But few of them address students’ personal feelings.

A noteworthy complication in disability research involves the fact that the most interesting subjects, those who choose not to disclose due to disability stigma, may never be identified at all (Price et al., 2005). This raised important validity of score issues during the design phase of the SSDRS. The SSDRS was designed to ask specific questions that related to self-esteem and personal feelings, and to be administered within a population of students who had self-disclosed their disability. The SSDRS did not attempt to generalize for students who had not self-disclosed. It is possible, perhaps even likely, that an otherwise valid and reliable measure of disability stigma scores might still
fail to capture the true variability of disability stigma in college students due to this factor.

Global Events

College students with disabilities persist (graduate within a normal 4 to 5 year timeframe) at much lower rates than their peers without disabilities (Edmonson, Fisher, & Christensen, 2003). This is in part due to the specific difficulties that a learning disability (or a learning-related disability, like ADD/ADHD) can impose on students in postsecondary settings. College DSS offices attempt to alleviate many of the specific obstacles that students may face by implementing accommodations, but the accommodations don’t always address global access issues or more subtle forms of discrimination (Gartin & Rumrill, 1996).

The global concerns of college students with disabilities may be grounded in the specific problems they encounter. College students with disabilities report perceiving that: their professors treat them differently from other students; their friends and peers treat them differently if they disclose their disability; that they must do more than other students to be successful; and that the college or university environment is not friendly to students with disabilities (Trammell, 2002). However, specific problems do not always sum total in a representative or meaningful way.

It is generally accepted that the effects of disability stigma will likely carry over into other arenas, including jobs, family, and friends when students leave college. Some
of the effects will not be linked to individual problems or stressors, but will be reflected in broader trends and attitudes. The global questions in the SSDRS were designed to measure how students with disabilities perceive that individuals with disabilities are treated in society in general, and generally how individuals (not just students) with disabilities are treated on campus. It is possible, theoretically, that a student with a disability may not have experienced a specific incidence of discrimination, but still may feel a degree of negativity present in the overall climate (Susman, 1994). The SSDRS was designed to be sensitive to this possibility, and to measure a global stigma effect that was not linked to one specific incident or obstacle.

Academics

The specific academic challenges that students with disabilities face are well documented, and are usually addressed through specific accommodations, such as extra time, or receiving assistance with note-taking (Lancaster, Mellard, & Hoffman, 2001; Palmer & Roessler, 2000; Trammell, 2003c). Accommodations, however, do not always “level the playing field.” In fact, academic accommodations may not be the most important changes that can be made for students with learning disabilities. Research suggests that students with learning disabilities have many disability-related issues (emotional, social, and communication-related) that may be impacting academics more than the accommodations, and should receive equal attention. The students’ internal perceptions of accommodations and the environment they learn in drives the success of
outside efforts to help them, and may suggest to colleges and universities that academic accommodations are only part of the big picture.

Students with disabilities perceive themselves as generally less capable than other students, and as possessing fewer academic skills (Javorsky, Sparks & Ganschow 1992). They often are not very effective in communicating or knowing their own learning needs (LRP, 2002). As a result, they may not benefit from, or even take advantage of, all the accommodations for which they qualify.

On some occasions, college students with learning or learning-related disabilities may naively neglect to anticipate the challenges that accompany seeking academic accommodations, even after they take the important steps related to disclosure. However, to deal with real processing deficits and limitations, they also must deal with a social environment that often stigmatizes and even marginalizes their learning opportunities.

When evaluating the effectiveness of academic accommodations, this negative social environment must be accounted for, as well as for the student’s own perceptions of how they learn within that environment and their actual academic efforts.

The U.S. Department of Education publishes a list of academic adjustments that postsecondary students with disabilities may need which includes items such as extended time for testing and note-taking assistance (USDOE, 2002). They give no advice, however, on how a student should feel, or how they should treat their own disability in the new college environment, or how the college should help them deal with that environment.
Academic success has been linked to accommodations (Lancaster et al., 2001; Palmer & Roessler, 2000; Ranseen & Parks, ; Trammell, 2003c). There is also some evidence that students with disabilities achieve lower GPAs than their peers without disabilities (N. W. Brown, 1994; Gilbert, 1996; Trammell, 2003c).

Students with disabilities often report that they are treated unfairly by professors. They report (or perceive) that professors sometimes grade them differently, have different expectations, or even give them less help because they have a disability. There is some empirical basis for this suspicions (Brantlinger, 2004; Marson, 2004).

Prior studies have also shown that student awareness of their own disability and how they learn best does, indeed, impact the effectiveness of academic accommodations (Trammell, 2002). In fact, a student's perception of their own learning disability may be the crucial factor in determining their resiliency in the face of significant obstacles. If they have unrealistic expectations for their learning, they may only be setting themselves up for failure. The author's own research has revealed that college students with disabilities consistently report stigma impacting their education in and out of the classroom (Trammell, 2003c).

The success of adults with learning disabilities is sometimes measured by their ability to "self-accommodate," a skill that requires considerable self-awareness (Gregg, Hoy & Gay, 1996). Self-accommodation, however, may only be effective to a limited degree. Sooner or later, students (and adults) must deal with the larger issues of environment and perception: When do I tell others about my disability? How much do I
tell them? How do I explain what it’s really like? How do I avoid recreating the stigma that was attached to me in elementary, middle or high school (Osman, 1995)?

Even when students are willing to take the first step of self-advocacy (i.e., to identify themselves to the college or university as having a disability), and take the risk of stigmatization in order to receive accommodations, they still must play a critical role in the effectiveness of the accommodations through their own “goodness of fit” tests and a “learned creativity” in implementing them (Vogel & Reder, 1998).

The SSDRS attempts to measure such academic concerns as a separate subscale, asking specific questions about accommodations and professors that undoubtedly correlate with their overall level of perceived stigmatization. The items in the academic subscale come directly from the academic concerns that students with disabilities expressed in earlier qualitative research (Stodden & Whelley, 2004; Trammell, 2002).

Personal Relationships

Numerous studies have been conducted that link learning disabilities and/or ADD/ADHD with social problems, or lagging peer skills (Antshel, 2005; Canu & Carlson, 2004; Osman, 1995; Wong & Donahue, 2002). In many cases, due to the rules of confidentiality, a college student with a disability will be innocently paired (such as in the case of roommates) with a student without a disability. This creates an immediate dilemma for the student with a disability pertaining to information management (Goffman, 1963). How much does he or she tell their roommate? Does he or she tell
them anything? What if the roommate talks to other students? Does he or she talk about keeping the room locked, due to ADHD medication security issues?

Similar dilemmas arise in other relationships, ranging from personal friends to professors and college staff persons. Every relationship requires that the student with a disability make an informal type of cost benefit analysis, mentally calculating the possible consequences and side effects of disclosure, even with someone who may be very close, like a roommate (S. Field et al., 2003; Gregory & Satterfield, 2002; Neufeld & Mohan, 2000; Westbrook et al., 1993). Even for less stigmatized disabilities, such as ADD/ADHD (which has sometimes been referred to as a “designer disability”), the social consequences can have serious implications (Hartmann, 2003). College students, like all humans, will become discouraged and stop telling people about their disability, when they find that the return is labeling and discrimination (Angermeyer & Matschinger, 2003; Nandrea, 2006).

Socially, students report being uncomfortable discussing their disability with peers, as well as being reluctant to talk to other adults on campus. Research confirms that students with learning disabilities (LD) have difficulties with social relationships, and moreover, that students with learning disabilities also tend to be at heightened risk for frustration and social stress when repeated academic success is elusive (Wiener, 2002).

The SSDRS was specifically designed with items to assess the perceived impact of disability on personal relationships with peers, teachers, friends and others. The questions were again based in large part on the earlier qualitative interviews of students
with disabilities, and attempted to separate the issue of personal relationships from other more global disability stigma issues.

There is some evidence that personal relationships are linked to all of the subscale measurements of stigma. In the pilot phase exploratory factor analysis, question 1, 'I think about my disability, correlated much more strongly with personal relationships than it did with any other factor, including personal feelings. This may have occurred in part due to the inextricable link between self identity and the desire to communicate with others about a disability, regardless of consequence. It may have also been related to the wording of the questions in the personal feelings subscale, which were presented in terms of either positive or negative self image, while question 1 was worded in neutral terms.

Group Identity

Goffman’s work on stigma in the 1960s highlighted the difficult issue of personal identity that students with disabilities must confront (Goffman, 1963; Susman, 1994). In the case of an invisible disability, many students may pass as a “normal” or non-disabled student if they choose not to disclose. The paramount issue is one of information control, which involves students constantly having to weigh the positive benefits of seeking accommodations against the negative consequences of stigmatization. When students do choose to disclose, they lose significant control over sensitive information, even with the tightest safeguards for confidentiality in place. Their disability identity can be used
against them in seemingly innocuous ways that may in fact be quite stigmatizing (Goffman, 1963).

In terms of group identity, there is mixed evidence about how individuals with disabilities take ownership of their larger disability identity. In some cases, the type of disability seems to govern the acceptability, as is seen with the growth of "designer" disabilities like ADD/ADHD, which have become more socially acceptable and perhaps over diagnosed (Harrison, 2004). With some mainstreamed medical disabilities, such as diabetes, the long history and recently discovered treatments available render group identity as a specific subculture, rather than an invitation into the larger circle of all individuals with disabilities. A similar situation is found in the cultural separation of individuals with deafness (Fleischer & Zames, 2001).

One way to gauge an individual's assimilation into a group identity with disability is through measuring his or her willingness to seek help due to disability. A college student who steps into a disability support office is essentially joining a group, or accepting membership in a group effort. Thus, willingness to seek help may be a measure in some degree of willingness to accept a group identity.

There is some evidence that adults with disabilities in the workplace do seek help at higher rates than their non-disabled peers (Willis, Fabian, & Headershot, 2005). The evidence about college students with disabilities and help-seeking patterns, however, is much more unclear. In fact, there is evidence that due to stigma students with disabilities often choose intentionally not to get help. If they do seek help, they often choose outside agencies, or services where there is less likelihood of their "normal" identity being
challenged or compromised (Hoehn, 1999). This suggests an unwillingness to assume personal or group disability identity.

There are other group identity issues to consider. Even when individuals with disabilities accept their personal disability identity, they often remain private and aloof with outsiders. This, in effect, becomes another consequence of stigma, and limits the extent to which their personal disability identity can actually function in a healthy, social manner.

The SSDRS specifically measures items related to group disability identity that interpret help seeking behavior, perceptions about others with disabilities, and the need for general disability advocacy. The items were specifically generated from qualitative interviews, and also from media portrayal of “hot button” disability issues (Fleischer & Zames, 2001).

Summary

With perceived stigma as the primary dependent variable, and five areas within which to measure stigma effects, the framework for the development of an instrument measuring disability-related stigma falls logically into place. Stigma has historically been reported through diaries, published codes of law, and through anecdotal stories. The present state of social science encourages operationalization and measurement of such social phenomenon, in the ultimate hope that needed social change can be made based on evidence, rather than conjecture.
The prospect of social change was tantamount to the design of the SSDRS. The intent was not only to measure the degree to which members of stigmatized groups actually felt or experienced stigma (Harvey, 2001), but to foster an environment where meaningful change might be more likely to take place.

The literature on stigma and disability strongly suggests that the focus of discrimination has shifted more toward invisible disabilities, such as ADD/ADHD, psychological disabilities like depression, or classic learning disabilities (processing disorders), impairments that were previously unknown, undiagnosed, or ignored. Since many more students with invisible disabilities are attending postsecondary schools than ever before, the issue of disability stigma is assuming new importance. The stigma effects associated with these invisible disabilities are not as well understood, and in some cases, not even accounted for.

All of these factors made the development of the SSDRS a timely and meaningful project. The results and implications of the study results were intended to confirm what is already known about disability stigma, and ideally, to spark further, much-needed research in the fields of stigma research and disability studies.
CHAPTER III

Methodology

The concept of stigma (going back to the original Greek meaning) can be defined conceptually as the social label a person receives due to a disability, and just as importantly, the subsequent consequences that they suffer as a result of the label. To operationalize the concept of stigma, it was necessary to define observable behaviors, to devise theoretical constructs that could be measured using participant-generated data methods, and to connect the concepts with the data. The methods involved had to be grounded in theory and psychometrically sound (McMillan & Schumacher, 2006; Orcher, 2005).

Since stigma that college students with disabilities experience is accompanied by social and academic consequences—lack of access to specific places or people, exposure to inappropriate or rude comments, or simply being ignored, to cite examples—operationalizing stigma meant defining in very detailed terms the measurable behaviors that represented social consequences (Adler & Clark, 2003; McMillan & Schumacher, 2006). For example, one had to observe, document, or otherwise analyze instances where individuals with disabilities were denied access to a public space. Or, to give another example, the researcher had to find a way to document occasions when a participant was verbally belittled, or insulted. Operationalization also meant defining exactly what an insulting comment was, or the exact context within which it could occur.

For the SSDRS, particular attention during design was paid to determining to
what degree the students felt stigmatized in specific situations. For example, did they feel that their friends treated them differently when they found out about their disability? Did they equate lower grades with professors discriminating against their disability? Did they perceive the climate on campus as unfriendly, or friendly to individuals with disabilities? Such questions do not always easily generate absolute, black and white, yes or no responses.

The researcher determined that a Likert-type survey instrument combined the appropriate strengths to gather meaningful data on disability stigma (J. D. Brown, 2000; Patterson, Sedlacek, & Scales, 1984; Presser et al., 2004; Vogt, 2007). Many previous instruments used to measure stigma, particularly those coming out of race research in the 1960s, successfully employed Likert-type scales. A survey also had the advantage of being easily adapted to address confidentiality concerns, an issue of paramount importance given the sensitive nature of stigma and the complexities of protecting personal identity. A survey could, however, if designed discreetly and effectively, solicit information that individuals might normally be hesitant to talk about face to face, or perhaps for various reasons, don’t normally think about or even want to think about. Surveys also had the added benefit of allowing for triangulation and validation. The same question could be asked a number of different ways, to help confirm the outline of a subscale or construct (Dillman, 2000; Fowler, 2002; Kalton, 1983). Surveys, specifically Likert-type scales, also allowed for greater variability in response, or measurement sensitivity that could more accurately capture to what degree a respondent felt a certain way, or perceived certain events. This included the ability to add scores from items
together to create a composite scale and subscales. Such composite scales tend to be more accurate than relying on individual item analysis (Vogt, 2007).

According to W. Paul Vogt (2007), there are four important factors in deciding to use a survey instrument: the information can best be collected directly from individuals, a reasonable response rate is possible, respondents can be expected to give reasonably accurate information, and the researcher can clearly plan for what to do with the data (pp. 90-92). The creation and testing of the SSDRS met all of these criteria.

The control of measurement error is critical in any research. The design of the SSDRS considered other factors that historically lead to measurement error, including what statistician W. Edwards Deming in 1944 called bias of auspices (Deming, 2006). The completion of the SSDRS might in and of itself polarize a student’s attitudes about disability stigma. To avoid such error, the intended use of the SSDRS was stated in advance to respondents.

Research Questions

The SSDRS began with a basic question: how much disability-related stigma do college students with disabilities experience? A small, focused qualitative study was initially designed and conducted, which included detailed interviews with college students with disabilities to gather background information and identify emerging issues (Marshall & Rossman, 1990). After transcribing the interviews, coding data, and organizing the data using NUDIST qualitative software, a final report was written and
submitted as part of an institutional report at R-MC, where the project took place (Trammell, 2002).

The inductive process in the qualitative phase of the pilot led to information that suggested an empirical methodology be used to gather more data. The students in the study uniformly reported significant stigma effects; they felt they were being treated very differently due to their disability or disabilities. Since interviewing thousands of college students with disabilities was not practical, the design of a survey instrument would give access to larger numbers of college students with disabilities, and allow for probability sampling, both factors which could lead to greater generalizability of study findings. In addition, the creation of an instrument that generated reliable and valid stigma scores would also give other researchers a means of replicating the findings, and further verifying the nature of the larger problem, which can be called disability stigma consequences, or in some research, simply stigma effects (Levin & Laar, 2006; McMillan, 2000; McMillan & Schumacher, 2006). The survey would attempt to capture in quantitative form the same kinds of information that the interviews captured in narrative detail.

No previous instrument was located in the literature that measured exactly what the SSDRS was intended to measure, so stigma instruments from the Civil Rights era that measured racial stigma were used as preliminary models. The majority of the older instruments used Likert-type scales, and averaged thirty to forty items. Respondents were asked to indicate the degree to which they felt they experienced discrimination (Dunbar, 1995; Utsey & Ponterotto, 1996). More recently, stigma instruments that
measure HIV-related stigma, and general ADA discrimination, have utilized the same methodological approach (Berger et al., 2001; Hernandez et al., 1998).

A draft of the survey was examined by graduate students at VCU and went through an informal instrument review. Several dozen volunteer students at Randolph-Macon College who had self-disclosed disabilities completed the first piloting of the SSDRS, and the results were incorporated into an institutional report (Trammell, 2003a). A short while later in the fall of 2003, the survey was also tested at J. Sergeant Reynolds Community College under similar circumstances. A total of 63 responses were gathered from these administrations, and used to further refine the instrument. A later administration at R-MC collected 22 more surveys, and a total of 85 from the three pilots were used for exploratory factor analysis, correlation analysis, and reliability testing.

After pilot completion, the research questions were clarified for further study. The questions included: How much variability is there is stigma effect across populations of college students with disabilities? Can disability stigma be accurately measured? Is the SSDRS psychometrically sound? Most specifically, are the scores generated by the SSDRS, and the inferences made from them, reliable, valid, and appropriate?

Pilot—Qualitative Phase

The initial purpose of the qualitative phase of the pilot was to provide more information to postsecondary administrators, faculty, and students at R-MC about the perceptions of students with learning disabilities, so that programming could be modified
to account for individual experiences, and the overall climate of tolerance improved. Specific questions and foreshadowed problems included: What specific coping skills or strategies do students with learning disabilities use inside and outside the classroom? What accommodations do students with learning disabilities perceive to be the most effective? What are the barriers students with learning disabilities encounter inside and outside the classroom? The questions, and the answers to these questions, would later lead directly to the crafting of the questions on the SSDRS.

Three students were selected from a pool of self-disclosed students with learning disabilities, or learning-related disabilities (such as ADD/ADHD). The students represented different classes (sophomore, junior, and senior), different genders (one male, and two females) and were purposefully selected because they had enjoyed a measure of academic success (minimum of 2.00 GPA or higher) in a rigorous academic environment, while receiving academic accommodations for a learning or learning-related disability.

The students voluntarily agreed to participate, and to answer a series of questions about their college experience, particularly as it related to their learning disability and any accommodations they had received for it. The interviews were conducted at a neutral site on campus (an empty study/workroom) and tape-recorded. Students had the option of asking to stop the tape-recorder if they wanted time to reflect on a particular question. They were also given the option of making remarks “off the record,” though none of them took advantage of the opportunity. The questions were designed to allow approximately thirty minutes per interview. The R-MC IRB (institutional review board) formally approved of the project.
As part of the preliminary work, arrangements were made (with permission of the instructor and student) to visit each student in one of their regular classes, to observe how they learned, how they functioned in the social environment, and how they were taking advantage of accommodations the college provided for them. The field notes generated from the observations helped to refine the interview questions before the interviews took place, and gave a context for redirection. The field notes were handwritten in real time, and then later reorganized using a standard format to help with coding.

These observations proved to be an invaluable step in the qualitative cycle of inquiry (Marshall & Rossman, 1990). To give one example, the researcher noted a marked lack of individual attention to students in comparison to the traditional secondary school environment (the researcher having come from a secondary background where much more emphasis was placed on individual attention to students). It later came as no surprise when all three students in the study reported during their interview that one of the most important aids they could receive was more individual attention from their professors.

There were also important ethical issues to consider in conducting the study. The researcher's role as the Director of Disability Support Services on the same campus meant that the students might be talking about issues that had implications for how accommodations were arranged on campus, and might uncover serious issues about discrimination that demanded action. To obviate this danger, the participants and researcher agreed in advance that the results of the research (the final report) would be
made available to anyone on campus, with the only caveat being that the identity of the participants would remain anonymous.

There were also issues related to validity of results. If any of the student participants believed it would be to their advantage to answer a certain way, or that it would please the researcher to hear certain responses, the legitimacy of the research might be seriously compromised. There was also the possibility that the researcher might lead the students in directions that corresponded to preconceived notions. For example, an admitted preconception of the researcher was the belief that students on campus would benefit from sharing their negative experiences about accommodations, as well as their positive ones. Without care, negative anecdotes might blossom with little additional prompting. To address this concern, the questions were evenly divided between negative and positive experiences, and a strictly scripted, word for word presentation and interview process lessened the likelihood of “leading” the interviewee too much.

The researcher began the qualitative study with the assumption that validity of results did not necessarily depend on the notion of possible replication, but also determined that the results would not likely be incompatible with previous research in the area of college students with disabilities (Bogdan & Biklen, 2003).

On the positive side, the pre-established relationship between the researcher and the students fostered a warm, inviting atmosphere where the students felt freer to speak without restraint. With the other precautions carefully adhered to, this advantage was clearly beneficial in producing rich data.
The interviews largely followed the scripts that had been designed in advance. Each student scheduled the interview at a time of their convenience, was reassured about privacy, and was given the opportunity to ask any questions in advance that were concerning them. One student asked, for example, if they could have a drink of water during the interview, but none of them asked anything about the content of the interview questions.

During the interviews, all three students occasionally requested that the tape-recorder be stopped and that they be allowed some time to think about their response. In later analysis of the data, these requests were considered as a separate variable and counted for comparison. In fact, the requests for pauses twice occurred on the same question for all three students. If relevant conversation occurred during the break (which happened only in a small number of cases), the researcher asked the student to speak about it on the record if they were comfortable doing so, and in all cases they agreed and the taping resumed.

After each interview was transcribed word for word from the tape into Microsoft Word, the students were given a copy of their interview transcript to look over and make corrections or editorial changes. No one wished to make any changes to the text of their interview, although all three did express surprise at some of their own comments, hinting perhaps at a trend discussed later that relates to how students cope with having a disability, or try to manage their own fear of being different.

The transcripts were saved from Microsoft Word as ASCII text and transferred into NUDIST (version 4.0) software for qualitative analysis. After several rounds of
preliminary analysis, a number of important categories or codes of information began to emerge. In a general sense, they consisted of student perceptions of themselves, student perceptions of how others (including mainly professors) viewed them, and student ideas about what accommodations were or how they worked.

All three students reported that it took a significant amount of time for them to start to understand the nature of their learning disability

“I honestly did not know what to think. I had no idea.” (#1)

“I didn’t really know what area my disability was in.” (#2)

“I was confused. I didn’t know that something was wrong with me.” (#3)

Even years after the fact in some cases, these students still did not understand the purpose of some middle school or high school accommodations, or the full scope of the special education process as it related to them. Perhaps more importantly, their stories were complicated by a history of failure or rejection at some critical point. Other studies of high school students with disabilities have revealed similar stories (Kortering & Braziel, 2002), and even studies initially measuring other aspects of disability often uncover significant evidence of such negative feelings (Javorsky, Sparks, & Ganschow, 1992). A sample of student comments adequately represents the lingering negative side effects of special education labeling and unintentional stereotyping:

“Treat us like you would anyone else, man.” (#1)

“I didn’t want people to find out.” “They don’t understand it.” (#2)

“It kind of made me feel like I was stupid. I felt like something was wrong with me.” (3#)
In fact, an "us" verses "them" attitude permeated a number of comments when students were asked about how others viewed them, and it is no surprise that the only questions all three students asked to pause the tape recorder on were questions #5 and #18, questions that dealt with painful failure, and the attitudes of the non-disabled concerning students with disabilities. Likewise, data analysis showed that the codes with the most responses were the ones that related to how students felt about themselves, and what they believed that other people thought about them.

"People don’t have any idea what it’s like."

"It’s difficult to relate to someone who doesn’t have a disability because they don’t understand it." (#2)

"I feel that the college is not quite as sensitive to students with different learning needs. I try not to regenerate what I say throughout the semester [disclosing my disability to professors]...[because they might] throw it right back in my face." (#3)

These comments were offset in part by the many positive and generally successful stories of classrooms where the professors were accommodating, other student attitudes positive, and substantive learning accomplished. In fact, the list of accommodations each of the students took advantage of at some point in their college career, in cooperation with professors, was a lengthy list. All three students indicated that the professor in each classroom carried an enormous influence over student learning. The literature on transition confirms the importance of professors and individual connections with students (Clarke, 1992; Edmonson et al., 2003; Gartin & Rumrill, 1996; Lieberman, Wehlburg, & Education, 2002; Trammell, 2005).
All three student participants also had clear ideas about how to help themselves:

"[Make] note cards." (#1)

"Do one thing at a time." (#2)

"Study in a quiet place." (All)

"Go to the professor." (All)

"Go to tutoring." (All)

The challenges they perceived were also challenges well-documented in the transition literature (Clarke, 1992; Edmonson et al., 2003; Gartin & Rumrill, 1996; Trammell, 2005). Samples of responses were:

"I got behind [and] I wasn’t prepared." (#1)

"Settling down and getting started on the task at hand." (#1)

"Getting [taking] notes." (All)

"Organization." (#2)

"Get[ting] the big picture instead of just the details." (#2)

The single most revealing question in the interviews, however, was the question of how each student defined the nature of an accommodation. All three responses hinted at the recurring theme of self-doubt, and the continued need to establish a welcome and open environment for students with disabilities.

What is an accommodation?

"I guess it would be something like the outside, giving you an actual hand, to help you make up for, to help you atone—not atone!—to help you compensate for the ADD or disability you have." (#1)
"[It's when] the professor is willing to actually sit down with me...and actually say what he wants on the test, the exam, and not just, you know, let me figure it out." (#2)

"It allows the student to find ways where they can have a better environment in the classroom...and that allows me to focus...and not feel pressure and have that anxiety. [It allows] students [to] have a better chance of showing what they know." (#3)

Several significant threads became clearer after analysis of the interviews, and meshed particularly well with previous research. Students with learning disabilities do face enormous psychological barriers in overcoming their disability (Price et al., 2005; Torkelson & Gussel, 1996). These barriers are complicated by environmental, social, and academic factors, including teachers or professors who often feel unequipped to help such students (Betancourt-Smith, 1994). Clearly, the three students in the qualitative study were still coming to grips with what it meant to them to have a disability:

"If you take a pill [for ADD], it will help, but it won't make it disappear." (#1)

"I don't talk to them [professors]." (#2)

"I try not to think about it [my disability]." (#3)

There is ample evidence from the interviews that the social construction and definition of disability is in many ways still limiting the ability of these students to think of themselves as "normal" (Covey, 1998). Accommodations can provide academic equal opportunity, but appear to do little to alleviate the social and emotional stress of having a disability. For the students in this study, the individual one-on-one attention from instructors was often the most important factor in successful learning, and clearly provided compensation for social and emotional uncertainties. The interaction with a
professor also appeared to take away some of the "otherness" that the students were experiencing.

"He told me no pressure, don't worry about it, just relax. I do wish that could be the case for all my classes." (#1)

It was not so clear that accommodations had any special impact on the social environment, however, or the institutional culture. Even in cases where high profile individuals with disabilities are successful in the mainstream, their disability is often marginalized, or downplayed. Of the more than 35,000 press photographs taken of President Franklin D. Roosevelt, for example, he was pictured in a wheel chair twice (Crider, 2002). If colleges and universities fail to promote and model environments where students with disabilities are fully accepted members of the community, then academic accommodations may eventually become no more than hollow formalisms to hide behind that actually protect a discriminatory status quo.

The qualitative phase of the SSDRS pilot was limited to three students at a small, private liberal arts college. For the purposes of institutional evaluation at R-MC, the results were convincing: more education and community awareness were necessary for these students to feel like the environment is changing positively; accommodations worked, but they would work much better if students felt accepted and could receive more individual attention from professors.

For the larger purposes of the SSDRS study, the voices of students with learning disabilities that spoke in this initial qualitative project still had much to say that was not recorded or transcribed. The creation of the SSDRS, based on the themes already
uncovered, promised to further elucidate the effects of stigma on college students with disabilities, and perhaps provide a larger platform for needed social change.

Pilot—Quantitative Phase

Based in part on previous research on stigma, and in part on the results of the qualitative findings, the SSDRS was developed to measure the degree to which college students feel marginalized or stigmatized by their disability (Berger et al., 2001; Pinel, 1999). The quantitative phase of the pilot specifically investigated the initial psychometric properties of the SSDRS. The instrument was designed using preliminary planning techniques (i.e., the “tailored method” of survey design), and later, refined using statistical testing that included exploratory factor analysis, item analysis, and correlation of subscores (Dillman, 2000). Means, standard deviations, and other measures of variability were also collected and analyzed.

Both qualitative and quantitative research increasingly show that young adults and college students with physical and/or psychological disabilities feel heightened levels of stigmatization due to their disability (Crawford, 2002; Fleischer & Zames, 2001; Pinel, 1999; Price et al., 2005). The SSDRS began with the premise that disability stigma was a consistent problem in the postsecondary environment, and was therefore measurable. An equivalent instrument did not exist at the time of the creation of the SSDRS, in spite of the fact that millions of dollars were being spent annually accommodating students with disabilities on college and university campuses (Trammell, 2003c).
A major hurdle in developing the quantitative phase of the SSDRS pilot involved gaining the cooperation of outside agencies and obtaining official IRB approval. Students with disabilities are a protected at-risk population, and there needed to be continual care given to issues of confidentiality and the nature of stigma effects themselves, which may be triggered by any event related to the disability (even something as innocuous as the completion of a short survey instrument). IRB approval was waived for some portions of the pilot, and formal approval was received from the VCU IRB for the final data collection in the pilot. Written permission was also obtained from cooperating agencies, such as all three offices for disability support services.

A draft of the instrument that would become the SSDRS was formatted and printed with 24 Likert-type items on a five point scale, ranging from 0 = never to 4 = all of the time. The questions came directly from the literature review, and the student interview results in the qualitative phase of the pilot. There were also several demographic questions at the end of the survey, although the VCU IRB eventually recommended removal of two of them that were deemed possibly inappropriate (questions related to specific disability type, and race, which they argued could lead to participant identification). Later, a category for indicating “visible” and “invisible” disability was added on as the last item. The 24 Likert-type items, however, remained consistent throughout the pilot and various data collections with only minor changes.

There were specific research questions identified at the beginning of the quantitative phase of the pilot. First and foremost, the question was: to what degree do undergraduate students who disclose a disability feel stigmatized? Secondarily, how
variable were the experiences of students with disabilities and stigma effects? How interrelated were the subtypes of disability stigma (group identity, personal relationships, academics, etc.)? What positive evidence was there of the psychometric properties of the SSDRS?

Planned data analyses included reporting the descriptive statistics such as the mean, median, minimum, and maximum scores and standard deviation of the students’ total scores. Additionally, confidence intervals for the mean total score would be calculated to demonstrate the range of true stigma scores for the sample.

Perhaps most importantly, the question of how reliable the scores the SSDRS generated were in measuring disability stigma would be addressed. Answering this question would require calculating reliability coefficients (Cronbach alphas), comparing expected variability in scores with actual scores, and revisiting the literature on other stigma instruments.

Lastly, how accurate would the subscales on the SSDRS be in measuring specific aspects of disability stigma? Exploratory factor analysis (EFA) was planned as the primary tool for analyzing subscale veracity. Other tests would include individual item analysis, comparisons of subscale response variability, and calculations of total subscale scores (Manly, 2005). It was expected that the subscales might not completely stabilize in the pilot phase, and might require examination of larger numbers in the aggregate data to stabilize. Exploratory factor analysis was planned for the aggregate data.

For the quantitative pilot, students at R-MC and JSRCC who had self-disclosed to the college that they had a disability were offered an opportunity to complete an
anonymous stigma survey when they used disability support services for the first few weeks of the new semester. They were told about the survey when they came to consult about any disability support service, asked to read a consent form if they agreed to take the survey, and then given a survey to either complete on the spot (in a private office) or take with them and return in an self-addressed, stamped envelope (which was addressed to the academic center at R-MC). The time required to complete the survey was approximately five to seven minutes.

The sampling frame was college students with self-disclosed disabilities; specifically, 150 students at R-MC, and roughly 250 at JSRCC who had self-disclosed with a disability or disabilities. The sampling frame at each school was very similar, consisting of slightly more females than males; was equally distributed among classes; and was divided into roughly 30% with classic learning disabilities, 60% with ADD/ADHD and/or psychological disabilities, and 10% with medical or physical disabilities. The survey was made equally available to all students currently accessing services through the disability support services office, with a projected return rate of 25%, or 100 total surveys returned. The students generally ranged in age from 18 to 22, though there were a number of nontraditional students at JSRCC who were older.

If students elected to fill the survey out immediately (as it was anticipated that the majority would do), their surveys were collected by the researcher or research assistant as soon as the student finished. The surveys were stored in a project folder in the DSS filing cabinets in the researcher's office at R-MC, and were protected by institutional policies, as well as by FERPA and the Buckley Amendment. If subjects took the surveys with
them, a confidential SASE envelope was provided so that they could return the surveys to the office. The surveys from JSRCC were collected and stored in a locked file, and eventually returned to the student researcher through a deliberately similar process.

There was no personal data gathered from subjects. Questions 25 and 26 asked generic demographic questions that could not lead to the identification of individual students. Students were provided with the postpaid envelope not only to encourage a response, but also to help guarantee an anonymous response if they left the office to complete the survey. Students were also provided with an academic assistance pencil that included the academic center website on the pencil as an additional incentive to respond, particularly if they left with the survey.

Anecdotally, students have often reported to disability support personnel that they find it difficult to talk about their disability. Therefore, from the very beginning of the project, emphasis was placed on the voluntary nature of the survey to help address this as a potential obstacle. In past studies, students have also been hesitant to complete surveys in front of peers without disabilities. Therefore, the survey was intentionally distributed through the disability support services office to limit possible stigmatizing effects.

The postpaid envelope made no mention of the word disability anywhere on it, and used a generic learning center college address. The survey also had no identifiers on it. The pencil had a generic academic assistance address available to all students, and not directly connected to disability support services.

Subjects were told both in the survey directions and in person when they were recruited that the survey data would be used to study disability stigma with the intent of
better understanding it, and reducing or possibly eliminating it. The students often expressed great hope that their responses would make a difference for students with disabilities.

An informed consent statement was incorporated into the survey directions, as per the instructions of the VCU IRB. In addition, students who agreed to take the survey read a separate consent form (again, developed from the standard Virginia Commonwealth University IRB form). There was no official notice on the college web pages, or on the Disability Support Services bulletin boards about this survey, so as to limit possible stigma effects.

A strict verbal script was followed, upon the recommendation of the VCU IRB, which included the following: “I am involved in a research project that is studying disability and stigma in college students with self-disclosed disabilities. Would you be willing to participate in this project? The results may ultimately help many students.” Students were then handed a consent form to read, and then given a survey to complete, if they agreed. If they declined, they were thanked for taking time to consider participating.

The use of what is arguably a form of convenience sampling was employed with full consideration given to the benefits and potential validity issues associated with such a procedure (Dillman, 2000; Fowler, 2002; McMillan & Schumacher, 2006). Factors in favor of a type of convenience sampling included but were not limited to: the study being designed as a pilot, the unsystematic appearance of potential survey respondents which tends to mimic randomization within those students who come to DSS, the ability of the researcher to gauge respondent representativeness, and the small sampling frame
(students with self-disclosed disabilities at a small, private liberal arts school, and a relatively small, local community college). In addition, the decision to aggregate the data from several schools would help ensure an adequate and representative sample.

An ongoing validity concern related to the fact that self-disclosure can be considered an act of independence and self-recognition of disability that has serious implications related to stigma. Students who experience more stigma may choose not to disclose, and therefore might not even be part of the potential sample. The project was undertaken and carried out with full knowledge and consideration of that limitation. The SSDRS pilot addressed a very specific group of students: college students with disabilities who had self-disclosed and chose to access services.

Pilot—Results

The quantitative phase of the pilot resulted in a sample population with the following characteristics ($n = 85$): 39 students from R-MC (45.8%) and 47 from JSRCC (54.2%); 42 female (49.4%) and 43 male (50.6%); 61 students 20 years old or younger (71.8%) and 24 students over the age of 20 (28.2%).

The total stigma score ranged from 2 to 60, with a mean of 36.74 and a standard deviation of 11.59. Reliability analysis for the total survey using Cronbach’s Alpha analysis resulted in a reliability estimate of .824, based on standardized items. Using a parallel model, the reliability estimate was .816, with an unbiased assumption. Both of
the reliability scores were well within acceptable ranges for most social science applications (A. Field, 2005).

The subscales, as shown below, performed consistently:

Table 1

SSDRS Quantitative Pilot Subscale Means and Standard Deviations (n = 85)

<table>
<thead>
<tr>
<th>Subscale</th>
<th># Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Feelings</td>
<td>4</td>
<td>7.35</td>
<td>3.317</td>
</tr>
<tr>
<td>Global Events</td>
<td>4</td>
<td>4.00</td>
<td>2.611</td>
</tr>
<tr>
<td>Academics</td>
<td>5</td>
<td>8.46</td>
<td>3.187</td>
</tr>
<tr>
<td>Personal Relationships</td>
<td>6</td>
<td>8.11</td>
<td>4.563</td>
</tr>
<tr>
<td>Group Identity</td>
<td>5</td>
<td>8.82</td>
<td>3.838</td>
</tr>
</tbody>
</table>

TOTAL Stigma Score       | 24      | 36.74| 11.587             

Exploratory factor analysis at the conclusion of the pilots led to some slight adjustments in the arrangements of the subscales. An initial factor analysis, with factor loadings shown in Table 2 that follows, was run using principal components analysis and Varimax rotation with Kaiser normalization.
Table 2

*Initial Factor Loadings for SSDRS, Pilots (n = 85), using Principal Component Analysis and Varimax with Kaiser Normalization.*

<table>
<thead>
<tr>
<th>Item #</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>.112</td>
<td>.586</td>
<td>-.113</td>
<td>-.202</td>
<td>-.309</td>
</tr>
<tr>
<td>Q2</td>
<td>.053</td>
<td>.656</td>
<td>.097</td>
<td>.008</td>
<td>.017</td>
</tr>
<tr>
<td>Q3</td>
<td>.118</td>
<td>.618</td>
<td>-.275</td>
<td>.170</td>
<td>.070</td>
</tr>
<tr>
<td>Q4</td>
<td>.036</td>
<td>.819</td>
<td>-.095</td>
<td>.020</td>
<td>.029</td>
</tr>
<tr>
<td>Q5</td>
<td>.066</td>
<td>.626</td>
<td>.199</td>
<td>.187</td>
<td>-.317</td>
</tr>
<tr>
<td>Q6</td>
<td>.785</td>
<td>-.079</td>
<td>.021</td>
<td>.040</td>
<td>.091</td>
</tr>
<tr>
<td>Q7</td>
<td>.069</td>
<td>.643</td>
<td>.272</td>
<td>.250</td>
<td>-.129</td>
</tr>
<tr>
<td>Q8</td>
<td>.738</td>
<td>.135</td>
<td>-.063</td>
<td>.140</td>
<td>-.005</td>
</tr>
<tr>
<td>Q9</td>
<td>-.322</td>
<td>.268</td>
<td>.143</td>
<td>.612</td>
<td>-.138</td>
</tr>
<tr>
<td>Q10</td>
<td>.074</td>
<td>.738</td>
<td>-.145</td>
<td>.100</td>
<td>-.075</td>
</tr>
<tr>
<td>Q11</td>
<td>.387</td>
<td>.247</td>
<td>-.058</td>
<td>.181</td>
<td>-.576</td>
</tr>
<tr>
<td>Q12</td>
<td>.794</td>
<td>.064</td>
<td>.140</td>
<td>-.014</td>
<td>-.014</td>
</tr>
<tr>
<td>Q13</td>
<td>.248</td>
<td>.269</td>
<td>-.436</td>
<td>.167</td>
<td>-.294</td>
</tr>
<tr>
<td>Q14</td>
<td>.593</td>
<td>.283</td>
<td>.395</td>
<td>-.066</td>
<td>.057</td>
</tr>
<tr>
<td>Q15</td>
<td>.401</td>
<td>-.105</td>
<td>.524</td>
<td>.117</td>
<td>.076</td>
</tr>
<tr>
<td>Q16</td>
<td>.805</td>
<td>.123</td>
<td>.071</td>
<td>.060</td>
<td>-.032</td>
</tr>
<tr>
<td>Q17</td>
<td>.717</td>
<td>.295</td>
<td>.007</td>
<td>-.060</td>
<td>.096</td>
</tr>
<tr>
<td>Q18</td>
<td>.323</td>
<td>.108</td>
<td>-.169</td>
<td>.757</td>
<td>-.069</td>
</tr>
<tr>
<td>Q19</td>
<td>.343</td>
<td>.504</td>
<td>-.186</td>
<td>.038</td>
<td>.001</td>
</tr>
<tr>
<td>Q20</td>
<td>.135</td>
<td>-.047</td>
<td>.806</td>
<td>.097</td>
<td>-.048</td>
</tr>
<tr>
<td>Q21</td>
<td>-.004</td>
<td>.419</td>
<td>.382</td>
<td>-.171</td>
<td>.385</td>
</tr>
<tr>
<td>Q22</td>
<td>.037</td>
<td>.014</td>
<td>.116</td>
<td>.600</td>
<td>.289</td>
</tr>
<tr>
<td>Q23</td>
<td>.141</td>
<td>.008</td>
<td>-.030</td>
<td>.259</td>
<td>.635</td>
</tr>
<tr>
<td>Q24</td>
<td>.406</td>
<td>-.141</td>
<td>.071</td>
<td>-.012</td>
<td>.600</td>
</tr>
</tbody>
</table>

There were initially seven Eigenvalues > 1.00, although the sixth and seventh factors were very close to 1. The factor loadings when assuming five interpretable factors were reasonable, explaining more than 45% of the variance, and provided a good starting point for evaluating the subscales prior to final data collection (Pett & Johnson, 2005). In fact, very few items needed to be changed from the initial scale organization.

After the initial EFA, the researcher examined more than two dozen models for arranging the subscales manually (feeding the information into SPSS as each model was theorized), checking each individual subscale for reliability and for common sense placement of items. Though time-consuming, this process provided further verification
for the final arrangement of the subscales, based on the initial EFA. Most of the models were thrown out due to reliability scores for subscales becoming unacceptable (significantly below .5), or items not matching the domain they were placed in from a common sense or theoretical perspective. Models with four subscales, and six subscales were also attempted, but failed to globally capture the construct and were statistically weak.

The most parsimonious model was the original model with five subscales, which included between 4 and 6 items per subscale. The subscale reliability scores for the model are listed in Table 3 on the following page. Though the reliability of the academic subscale was below the desired threshold of .5, careful examination of the individual items suggested that a larger sample might increase the reliability of that subscale. The global events subscale also was below .5, but was close enough that a larger sample in the full study would likely improve the reliability coefficient. With an overall Cronbach’s Alpha reliability of .824, and sufficient variability among the results, the results of the pilot were satisfactory. Other descriptive statistics for the pilot phase of the SSDRS are reported on the page following table 3.
<table>
<thead>
<tr>
<th>Subscale</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Feelings (6, 8, 16, 24)</td>
<td>.749</td>
</tr>
<tr>
<td>Group Identity (12, 14, 15, 17,</td>
<td>.719</td>
</tr>
<tr>
<td>Personal Relationships (1, 4, 5, 9, 10, 19)</td>
<td>.751</td>
</tr>
<tr>
<td>Academics (11, 13, 18, 22, 23)</td>
<td>.438</td>
</tr>
<tr>
<td>Global Events (2, 3, 7, 21)</td>
<td>.623</td>
</tr>
</tbody>
</table>
Table 4

Descriptive Statistics for Total Stigma Score, SSDRS—Summary of Pilot (R-MC and JSRCC, n = 85)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>85</td>
</tr>
<tr>
<td>Range</td>
<td>58</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
</tr>
<tr>
<td>Maximum</td>
<td>60</td>
</tr>
<tr>
<td>Mean</td>
<td>36.74</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>11.59</td>
</tr>
<tr>
<td>Standard Error of the Mean</td>
<td>1.26</td>
</tr>
</tbody>
</table>
Design—Data Collection at VCU

After the conclusion of the pilot phase, some minor adjustments were made to the instrument. These included issues related to font size, tabs and margins, and incorporating principals of Universal Design related to white space and accessible layout features.

A new submission was made to the VCU IRB asking for approval to conduct the final data collection at VCU, in cooperation with the VCU office of disability support services. The procedures would remain identical to those utilized during the pilot phase at R-MC and JSRCC.

Population

The SSDRS was initially designed to be appropriate for any student in the postsecondary environment who had self-disclosed a visible or invisible disability. For the final data collection at VCU, the sample was drawn from the approximately four-hundred and fifty students who had self-disclosed a disability, and voluntarily agreed to complete a survey when they visited the disability support office. This population consisted of slightly more females than males, was roughly equally distributed among classes, and had approximately 30% registered with classic learning disabilities, 60% with Attention Deficit Disorder and/or psychological disabilities, and 10% with
medical/physical disabilities. This sampling frame was equivalent to the sampling frame at the two schools used in the pilot phase.

The survey was made equally available to all students using DSS services during the semester the study was conducted. The sampling techniques used in the design and study of the SSDRS incorporated a combination of purposeful sampling with a random element, similar in some ways to cluster sampling (Vogt, 2007). Students taking advantage of DSS services during a given semester are a naturally occurring subgroup within the universe of students registered with the DSS office. Considering the sampling frame of approximately 450 students, it was thought that perhaps collecting 50 surveys would be a reasonable goal. The VCU data could be analyzed, then added to the aggregate data for more detailed statistical analysis. This would be equivalent to having data from 10 to 15% of the total VCU DSS population, and particularly be representative of students registered with DSS who were likely to seek accommodations.

The number of expected surveys in the aggregate data was estimated between 100 and 150, and was determined to be enough to run the desired statistical analyses, and to provide for a modest generalizability to other postsecondary populations of students using DSS services. According to many researchers, the representativeness of the sample was the single most important factor to consider in the design of the SSDRS (Vogt, 2007).

Students who come in to utilize DSS services are perhaps more confident or motivated than students who don’t, but are similar in many other ways to students who register with DSS regardless of usage patterns (in terms of types of disability, gender,
age, etc.). The sample at each of the three schools was very representative of students with disabilities who were: registered with DSS, utilizing services actively, and willing to take a survey about stigma.

Disclosure patterns do likely vary according to type of institution, and the perceived quality or effectiveness of the support services. Some variation in responses was expected as a result of the large university environment. However, the accommodations offered at VCU were almost identical to the types of accommodations that were frequently offered at R-MC and JSRCC: extra time on tests, tests in a separate room, single rooms, moving classrooms, etc. What was dissimilar between institutions, and exceptionally difficult to quantify, was the overall campus climate related to disability issues. The disability climate, which is a nebulous combination of all the individual attitudes toward disabilities and the official policies for preventing discrimination, can determine without anyone’s awareness how and when students disclose about their disability. The SSDRS was not specifically designed to measure this climate, though in future studies with larger samples from various types of postsecondary institutions, exploration of disability stigma climate would be more feasible.

Instrumentation

In preparation for the final data collection, the SSDRS underwent a final instrument review, taking into consideration the results of the pilot phase and previous reviews, and employing several survey experts at VCU who had not seen the survey
during the pilot phase. Again, minor changes were made: several questions were shortened or clarified, and several demographic items removed at the request of the VCU IRB. The instrument was reviewed by numerous DSS coordinators and directors through functions at AHEAD (the Association for Higher Education and Disability) and LDA (the Learning Disabilities Association of America).

The SPSS coding system for the SSDRS was also finalized, using values ranging between 0 and 4 for each question, with some being negatively weighted, and some positively, depending on how it contributed to the overall stigmatization score. An initial expected range was developed based on similar instruments, and considering the variability of the pilot results. A reasonable scale based on the standard deviation of 11.587 was determined to be: 0 – 24 little stigmatization, 25 – 48 moderate stigmatization, 49 – 72 high stigmatization, and 73 – 96 extremely high stigmatization.

The questions themselves, dating back to the first version of the SSDRS, were intentionally limited to 12 or fewer words in order to help with clarity and understanding. Alignment was carefully and consistently arranged so that enough space separated answer choices and questions. Bolder tones were employed to emphasis questions, and the directions were placed at the beginning (Dillman, 2000). A simple Arial font was utilized to keep the survey as clean in appearance as possible.

One potential reliability issue was the degree to which individuals might interpret the scale differently. Having five possible answer choices, including a middle or neutral answer choice, was determined to maximize sensitivity without being overly burdensome or confusing to respondents. In addition, the attempt to keep the questions simple and
clear helped insure that the scale was appropriate (Davis, 2002; Dillman, 2000; Fowler, 2002).

The survey was designed to be self-administered in part due to the sensitive nature of the topic (Fowler, 2002). The qualitative phase of the pilot gathered valuable information about how disability and stigma exist in college students with disabilities, and the qualitative results were coded, analyzed, and organized specifically to generate potential survey questions that might elicit the type of sensitive data being sought.

The items were all closed-type questions, utilizing a five point, Likert-type scale (Vogt, 2007). To increase reliability, complete wording was used in question construction even after some items were shortened (Fowler, 2002). To maximize validity of scores, great care was taken to write questions that could be universally understood (Fowler, 2002). All of these issues were addressed when student volunteers studied the survey, even though the VCU IRB would advise changes at a later date to limit some additional wording in several of the questions. The instrument used in the final data collection reflected the input of dozens of individuals from varying perspectives (see Appendix 2).

The SSDRS was based in large part on other Likert-type scales designed to measure racial stigma, and other similar constructs related to stigma, that were spawned by social science research in the 1960s (Angermeyer & Matschinger, 2003; Berger et al., 2001; Contrada et al., 2001; Dunbar, 1995; Hernandez et al., 1998; Noble, Eby, Lockwood, & Allen, 2004; Pinel, 1999; Utsey & Ponterotto, 1996). These instruments both suggested how to construct and administer the SSDRS, and the techniques to be
used later for analysis of data. Building on the results of similar instruments previously
developed is accepted practice when designing a completely new instrument (Patton, 2001).

Utsey and Ponterotto (1996) created the Index of Race Related Stress (IRRS), to
measure the stress encountered by African-Americans as a result of discrimination and
racism. Building on the work of four earlier race stress scales, the IRRS consisted of 74
items using a five point Likert-type scale. Using exploratory factor analysis, four
interpretable components were identified. After further testing, the instrument was
determined to produce valid and reliable scores of race-related stigma.

The Disability Rights Attitude Scale (DRAS) was recently developed, and is an
instrument similar in many respects to the SSDRS, although designed for use with a
broader sampling frame (Hernandez et al., 1998). The DRAS was a 34 item, six point
Likert-type scale that measured individual attitudes toward the Americans with
Disabilities Act (ADA). The DRAS data generated by the initial researchers was
explored using factor analysis.

The Prejudice (PR) scale was an older instrument that clearly supports the
development of the SSDRS (Dunbar, 1995). The PR was originally created in the 1950s
by H. G. Gough at the University of Minnesota, and consisted of 32 items from the
Minnesota Multiphasic Personality Inventory (MMPI) that measured experiences and
beliefs associated with prejudice. In a replication study, Dunbar showed that even forty
odd years later, the PR still produced valid and reliable scores (Dunbar, 1995).
The SSDRS is very similar in design, theoretical construct, and anticipated use to over a dozen well-tested and published instruments. However, the SSDRS is the only instrument encountered in the literature that specifically measures disability stigma in college students with disabilities.

Procedure

The SSDRS study used a non-experimental quantitative design, incorporating the administration of a self-response survey instrument. After completion of the pilot phase and initial instrument development, plans were made to administer the SSDRS to a large sample of postsecondary students with self-disclosed disabilities at VCU.

Students at VCU who had self-disclosed to the university that they had a disability were offered an opportunity to complete anonymous stigma surveys any time they visited the DSS office to use services during the course of a regular academic semester. They were told about the survey when they consulted about any type of disability support service, asked to read a consent form if they agreed to take the survey, and then given a survey to either complete immediately (in a private office) or take with them and return in an self-addressed, stamped envelope. The time required to complete the survey was five to seven minutes.

If students elected to fill the survey out immediately (and it was anticipated that the majority would do so), their survey was collected by a DSS assistant and stored in a secure location, until they could collectively be handed over to the primary researcher. If
subjects took the survey with them, an SASE envelope was provided so that they could return the survey to the office by mail.

The Coordinator of Disability Support Services at VCU agreed to distribute and collect the surveys, to keep them safely locked up after completion (unless, of course, they were mailed anonymously, as per the procedures outlined), and eventually to turn them over to the primary researcher for data entry and analysis. The Coordinator was trained by the primary researcher in the procedures to be employed specifically for the study, and how to follow the guidelines mandated by the IRB. A written agreement to cooperate from the Coordinator was submitted to the IRB.

There was no personal or identifying data gathered from subjects. Questions 25 and 26 asked generic demographic questions that could not lead to the identification of individual students. Students were provided with a postpaid envelope to help guarantee an anonymous response if they left the office to complete the survey. Students were also provided with an academic assistance pencil (website on pencil, as in the pilot) and a self-addressed, stamped envelope to encourage them to respond if they left with the survey.

Research indicates that students sometimes find it difficult to talk about their disability (Vespia, 2004). Emphasis was placed on the voluntary nature of the survey. Past experience also indicated that students with disabilities might be hesitant to complete surveys in front of peers without disabilities. Therefore, the survey was distributed only through the disability support services office to limit possible stigmatizing effects. The postpaid envelope had no mention of disability on it, or related services, and used a
generic learning center address. The survey had no identifiers on it. The pencil had a
generic academic assistance address available to all students.

Subjects were told, both in the survey directions and in person when they were
recruited, that the survey data would be used to study disability stigma, with the ultimate
hope of reducing and/or eliminating it. All of the students in the previous pilots
expressed great hope that their responses would make a difference for students with
disabilities. During site visits to VCU by the primary researcher, students again
expressed a hope that their surveys might help “make a difference.”

An informed consent statement was embedded in the survey directions. In
addition, students who agreed to take the survey were read a consent form developed
from the standard Virginia Commonwealth University IRB form. There was no official
notice on the DSS web page, or on the disability support services bulletin board about
this survey, so as to limit possible stigma effects.

A verbal script was adhered to when the survey was handed out. “We are
involved in a research project that is studying disability and stigma in college students
with self-disclosed disabilities. Would you be willing to participate in this project? The
results may ultimately help many students.” Students were then handed a consent form
to read, and then complete the survey, if they agreed; otherwise they were thanked
anyway.

The procedures for the full study did not vary significantly from the pilot phase of
the study. An earnest attempt was made to keep procedures streamlined, consistent, and
fair. In addition, extra precautions related to data collection were implemented to ensure that procedural fidelity was a high priority.

Procedural Fidelity

Steps were taken to ensure the quality and control of data collection during the study at VCU. These steps included scheduling weekly visits to the data collection site, the office of disability support at VCU. During these visits the researcher watched random administrations of the survey, verifying that IRB approved procedures were being followed, and also checking to ensure that all materials for the administration of the survey were present and utilized appropriately. At the end of each visit, the researcher collected all completed surveys from the previous week and carried them by hand back to the office at R-MC where the data was entered into the computer.

In addition, the researcher met regularly with the Coordinator of Disability Support Services and the office manager at the VCU data collection site to discuss procedural matters, and to guarantee that IRB procedures were being followed. These discussions included specific directions for how to handle administration of the survey with student workers employed in the DSS office, and how to ensure that students coming in to use services would be recruited and treated in a fair and uniform way.
Data Analysis

When the academic semester ended and all completed surveys were collected and turned over to the primary researcher, the data were entered into SPSS version 13.0 for analysis. Planned statistical analyses included exploratory factor analysis (EFA), selected bivariate correlations, item analysis, and various descriptive statistics.

The primary focus of the statistical analyses was to confirm the general range of scores, and to verify the reliability of scores the instrument produced. The results were compared to the original results from the pilot phase, to provide further evidence for reliability and consistency of scores. Analysis also helped confirm that the initial score ranges and subscales were reasonable constructs, given the literature and theoretical structures.

Delimitations

There are numerous reasons why disability stigma is an area worthy of new scholarly research. First, as Zames and Fleischer point out, everyone will experience disability if they live long enough. It is the only “ism” identity open to all (Fleischer & Zames, 2001). Secondly, the recent announcements relating to President George W. Bush’s New Freedom Initiative, and the reauthorization of IDEA, have generated renewed interest in disability issues as they relate specifically to education. Finally,
disability is being portrayed in popular culture more widely and diversely than ever before (Davis, 2002). Disability has become a regular “news” item.

In light of postmodernist skepticism and a heightened public awareness of disability issues, the SSDRS was developed at a favorable time. Even so, the SSDRS was only designed to gather information from a very select cross-section of individuals with disabilities. The SSDRS only gathered data only from college students who had already made the decision to self-disclose their disability and access services.

This was an intentional delimitation. The act of disclosure in and of itself is an expression of acceptance on the part of the individual with a disability, and sets him or her apart from the person who may be struggling more with their personal identity, and how a disability fits into it. An intuitive assumption in the SSDRS study was that the effects of stigma might be more insidious and prevalent in those who fear to disclose, and therefore might not even be within the sampling frame. A counter assumption, however, was that the act of disclosure does not end possible stigma effects, and in fact, may even heighten them in some situations.

There were also issues of scope to consider. In spite of the attempt to generalize to the postsecondary universe by administering the survey at a small liberal arts college, a community college, and a large university, the sample was limited. Even the full study, completed at a major university, captured only one small section of a much larger, much more diverse population of young people with disabilities. None the less, an intentional delimitation was made by design, with the focus being primarily on determining the initial psychometric properties of the SSDRS.
Another noteworthy delimitation was the decision to not gather data on specific disability types. This was in part driven by IRB concerns about confidentiality, and it was a decision that discouraged several potentially interesting lines of promising investigation. Stigma effect is undoubtedly variable depending on the type of disability—visible or invisible; medical or psychological—and the SSDRS in the form used in this study was not designed to be sensitive to that distinction, although it was noted demographically in the final item.

Even given significant findings in this study, testing beyond the scope of this study was assumed to be necessary from the beginning, to further ensure instrument reliability and validity of scores. A larger study should incorporate students from other types of postsecondary educational institutions, and examine a more diverse cross-section of disability types. Other studies might potentially score respondents longitudinally to see if college disability support programs change student perceptions of stigma over time, or if the maturation process impacts perceived stigma.

The delimitations do not, however, threaten the validity of scores and usefulness of the SSDRS. No previous scales have attempted to measure what the SSDRS measures, and the development of the SSDRS potentially can be a spark for further research in the area of college students and disability stigma.
CHAPTER IV

Findings

The results from the pilot phase and from the VCU phase were combined in order to make a meaningful analysis of the survey data ($N = 121$). This was due in part to an unexpectedly low number of surveys being collected at VCU. Traffic patterns in the DSS office made collecting a larger sample impractical. It was also a corollary of two statistical truths: larger samples tend to be more representative, and larger samples tend to produce more reliable and valid scores (Keller, 2006). Before aggregating the data, however, analysis was conducted on the VCU survey data ($n = 36$) in order to identify any patterns or inconsistencies of scores that would argue against aggregation. This analysis provided evidence that the VCU data did not vary in any important ways from the first two study schools ($n = 85$). The survey, excepting demographic items, did not change throughout the various administrations. The consistency of the scores across the samples was critical to making meaningful inferences from the total data set. Aggregating the data was also necessary in order to reasonably justify conducting factor analysis (Henson & Roberts, 2006).

Thirty-six students at VCU completed the survey during the administration period. Data were collected during a seven week timeframe in the spring semester that included the week of final exams. Based on anecdotal information gathered during eight site visits by the primary researcher, a moderately high percentage of students who visited the DSS office completed the survey (estimated at 60% or more). The DSS office
verified that traffic patterns for the semester were typified by a small number of individual students who made multiple trips to the DSS office during the semester. Thus, the potential pool of hundreds of students registered with the DSS office was limited in the study by the fact that only a small percentage of students registered with DSS actually accessed services during the given semester.

Thirty-five of the 36 surveys were completed fully. A single survey was missing two items, and those items were subsequently coded in SPSS using the central value, or “2”, as a means of balancing analysis. There was no evidence in other responses around the two missing items to prejudice such a decision, and it is common to use the mean as a missing value in data sets.

Descriptive Statistics for VCU Data

The results of the VCU data in terms of descriptive statistics were remarkably similar to the previous pilot results. The range, minimum and maximum scores, means, and standard deviations across the subscales, and in total, were very analogous to those in the pilot study. The means and standard deviations for the VCU Data are summarized as follows:
Table 5

**SSDERS VCU Data Subscale Means and Standard Deviations (n = 36)**

<table>
<thead>
<tr>
<th>Subscale</th>
<th># Items</th>
<th>Mean (per item)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Feelings</td>
<td>4</td>
<td>6.36 (1.59)</td>
<td>2.598</td>
</tr>
<tr>
<td>Global Events</td>
<td>4</td>
<td>5.03 (1.26)</td>
<td>3.112</td>
</tr>
<tr>
<td>Academics</td>
<td>5</td>
<td>9.03 (1.81)</td>
<td>3.435</td>
</tr>
<tr>
<td>Personal Relationships</td>
<td>6</td>
<td>9.11 (1.52)</td>
<td>4.111</td>
</tr>
<tr>
<td>Group Identity</td>
<td>5</td>
<td>9.03 (1.81)</td>
<td>3.056</td>
</tr>
<tr>
<td><strong>TOTAL Stigma Score</strong></td>
<td>24</td>
<td>38.56 (1.61)</td>
<td>11.114</td>
</tr>
</tbody>
</table>

For purposes of comparison, the pilot data set and the VCU data set were contrasted and t-scores calculated for differences between means on all of the subscales and the total stigma score. Only one set of the means compared was significantly different, the subscale for Global Events, \( t(118) = -2.052, p < .05 \). With a mean score of 5.03 for global events, compared to 4.00 in the pilot phase, it’s possible that students at the major metropolitan research university (VCU) perhaps had more awareness and/or concerns about global forms of disability stigma that impacted them than their peers at smaller schools reported. None the less, the differences on the single subscale did not
translate into an overall significant difference in total score (level of stigmatization), \( p > 0.05 \).

In examining kurtosis for each question, most responses were reasonably distributed. The only exceptions were questions 3 and 4, for which responses tended to cluster more than expected and thus have longer tails than would be the case in a normal distribution. Questions 3 and 4 asked respondents to consider whether “teachers view me as having a shortcoming” and “my friends think I’m different because of my disability.” Each item had a mean response of less than 1, indicating that most respondents chose “never” or “occasionally” as characterizing their situation. In more practical terms, the sample respondents felt the least stigmatized by the scenarios in this pair of questions in comparison to the other 22 questions.

In examining skewness, questions 3 and 4 were confirmed again as having significant positive skewness (a long right tail). Questions 3 and 4 were not significantly positively skewed for the pilot data, so this may reflect again upon the unique qualities of the students surveyed at VCU, a major metropolitan research university.

When examining individual items with higher mean scores, question 15 had the highest mean score (2.86). This question, “I receive support from other students with disabilities,” measured the degree to which respondents felt that they were recognized and supported by other students with disabilities. Because the item was negatively coded, the mean of 2.86 indicated that respondents felt particularly strongly that they were not supported by peers with disabilities, and thus experienced a degree of disability stigma. Item 14 from the same subscale was also reverse coded, and was the next highest
item with a mean response of 2.25. Group identity, in fact, had the highest mean score of all the subscales, indicating that the students in the VCU sample were the most highly stigmatized in terms of global stigma, when compared to the other subscales.

The variability of total stigma scores as reflected in the standard deviation of 11.1 and the range of scores from 17 to 59 was comparable to the variability in the pilot results, and confirmed that students with disabilities have a wide range of interpretations of disability stigma in different college-related environments. In the aggregate data, the range fell between 2 and 60. The consistent variability of the scores in both pilot and VCU data provided evidence that aggregation of the data from all three study schools would be appropriate for purposes of exploratory factor analysis.

The demographic data for the VCU data was somewhat different than the pilot data due to the changes made by the IRB at VCU. This included the elimination of several items, and the addition of a new one. The demographic data for the VCU data is summarized as follows:
Table 6

SSDRS VCU Data Demographic Statistics \( (n = 36) \)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>38.9% Male</td>
</tr>
<tr>
<td>Age</td>
<td>16.7% ( \leq 20 )</td>
</tr>
<tr>
<td>Disability</td>
<td>91.7% Invisible</td>
</tr>
</tbody>
</table>

The fact that nearly twice as many females as males completed a survey was probably an indication that more females utilized DSS services at VCU during the semester the study was conducted. This may be related to help-seeking research that links gender and help-seeking rates (Hartmann-Hall & Haaga, 2002; Hoehn, 1998; M. E. Johnson, 2001; O'Neil, Lancee, & Freeman, 1984). Many researchers, and faculty in academic support roles, report formally and anecdotally that females are generally more likely to seek help than males. The results for the VCU data were consistent with anecdotal and formal research on help-seeking gender effects (Oliver, Reed, Katz, & Haugh, 1999; Rozell, Gunderson, & Terpstra, 1997).

Roughly 4 out of 5 of the respondents reported their age as over 20. This result was in marked contrast to the pilot results, where nearly two-thirds of the respondents
reported their status as underclassmen (under 20). This likely meant that most of the respondents in the VCU sample were upperclassmen (juniors, seniors) or graduate students. This also confirmed one of the major demographic differences between large universities and smaller postsecondary DSS settings: smaller schools may tend to emphasize academic supports, including DSS, earlier and more effectively than large universities do. Larger universities typically include graduate students and older non-traditional students.

The vast majority of VCU respondents reported their disability type as invisible. Visibility of disability was an important distinction to make in considering the generalizability of the study. In light of evidence that suggests students might respond differently to a measure of stigma when they perceive that they have no control over the information management related to their disability, the SSDRS controlled for that factor by adding an item to indicate type or types of disability (Goffman, 1963). In the case of visible or obvious disabilities, individuals lose a great deal of control about when and how other people find out about their disability (Levin & Laar, 2006). There is a theoretical reason to believe that with a very large sample of college students with disabilities, differences would exist between invisible and visible respondents. The overwhelming preponderance of respondents with invisible disabilities made analysis simpler in one regard, although the open question remains for future investigations.

The changes did not impact the 24 items on the scale that were to be utilized in factor analysis. They remained the same throughout the administration of the survey at
different schools. Overall, the VCU data was extremely consistent with the scores obtained during the pilot phase.

Bivariate Correlations for VCU Data

When constructing a scale such as the SSDRS, care must be given to develop items that correlate within their home subscale, and with an overall stigma score, but do not correlate too highly with items outside of their home subscale. Before aggregating the data, several tests were run to look at the bivariate correlations unique to the VCU data, both for theoretical and statistical purposes.

A visual inspection of a correlation matrix for all 24 stigma items and 3 demographic items in the SSDRS VCU data revealed several bivariate correlations of note, some related to the literature review and overall concept of disability stigma, and some unpredicted and worthy of brief discussion. Some correlations that were originally suggested by the literature were not significant.

Disability type (invisible or visible) was very strongly correlated with questions 2 and 7, $p < .001$. Questions 2 and 7 ask respondents to consider opportunities for students with disabilities, and whether students with disabilities are treated equally. Though the sample was small ($N = 36$), this correlation was consistent with what research states: individuals with overt (visible) disabilities suffer greater amounts of obvious discrimination based on their disability (J. D. Smith, 1985, 1995). This was consistent with trends reported by the disability support services office at VCU during the study.
Gender was significantly correlated with item 9, $p < .001$. Question 9 asked about making friends. In the limited VCU sample ($n = 36$), males reported more of a stigma effect that impacted making friends. This was consistent with help-seeking research, which tends to find women more willing to interact with new contacts, or more tolerant of stigma effects (M. E. Johnson, 2001).

Age correlated moderately ($p < .05$) with questions 8 and 14, which ask about how students and teachers view individuals with disabilities. In practical terms, this would suggest that as students get older, they may experience more stigma based on disability, and perhaps view the world as less fair (i.e., more cynical with age). This may also be related to the cosmopolitan environment common to most large universities.

Items 6 and 11 were in different subscales, but were moderately correlated ($p < .05$). Item 6 asks students how smart they perceive themselves to be, and item 11 asks about school and frustration. Research suggests that as frustration with school mounts, self-image may decline, and that as self-image declines, performance may go down (Olney & Brockelman, 2005). The results of the SSDRS within the limited sample ($N = 36$) supported this premise.

Overall, the degree of correlation between items that fell outside of their home subscale was not significant. There was no evidence from examining the correlations that indicated against factor analysis of the aggregate data.
Initial Tests of the Aggregate Data

After reviewing the characteristics of the VCU data and determining that it was appropriate to aggregate the pilot and VCU data, exploratory factor analysis was conducted. Exploratory factor analysis (EFA) had already been utilized with the pilot data to develop and refine the original subscales and identify the latent structure of the SSDRS (Wuensch, 2001). The initial pilot EFA had resulted in a first five factor model, and the adoption of the 24 original items on the instrument. Factor analysis is very commonly used in the development and interpretation of Likert-type scales such as the SSDRS (Henson & Roberts, 2006).

After collecting data from VCU, the data from all three schools in the study were aggregated in an SPSS version 13.0 data file for purposes of a second exploratory factor analysis \( (N = 121) \). The purpose was to build on the structure outlined in the initial pilot results, to identify the primary factors underlying the scale, and to confirm or suggest appropriate adjustments to the subscales and items. Factor analysis is a primary tool used in the construction and validation of questionnaires, but does have a number of assumptions. In this case, the data were assumed to be interpreted on an interval scale, and to be a multivariate normal distribution.

An important initial test of the aggregate data was an analysis of communalities. Communalities in the .5 range indicate that samples of 100 to 200 may be appropriate for factor analysis (A. Field, 2005). The communalities for the SSDRS aggregate data were .496, or well within the .5 range. Although the aggregate sample size is small \( (N = 121) \)
by some standards for factor analysis, the evidence of communalities suggested that the sample was adequate for an exploratory factor analysis. Some researchers such as Henson (2006) have reported that a sample such have between 5 and 20 subjects for every response item. The SSDRS meets that threshold at the lower end of the spectrum (Henson & Roberts, 2006).

Several other analyses were completed to test the veracity of the data set. Bartlett's test of sphericity was computed to be .000. In general, the significance of this test should be less than .05. The Kaiser-Meyer-Olkin Measure of Sampling was computed at .753. This statistic should be greater than .5 at a minimum to verify an adequate sample size for EFA. Values between .7 and .8 are considered good. The nonredundant residuals with absolute values greater than .05 were also calculated at 15%. According to statisticians such as Field (2005), they should be less than 50%, and the lower the better (p. 656). All of these statistics provided evidence that the data and sample size were appropriate for an exploratory factor analysis.

Determining the Number of Factors

The choice of statistical method for determining factors was guided by the intended use of the data. In this case, there was a modest intention to generalize to a larger population of students with disabilities who have already self-disclosed, and may be experiencing measurable disability stigma, in addition to the need to test the psychometric properties of the instrument. Therefore, inferential extraction methods
were chosen rather than strictly descriptive methods. Specifically, the maximum-likelihood method was selected as most appropriate, since the data was interval data and the study involved data reduction (A. Field, 2005; Henson & Roberts, 2006).

Initially, a scree plot was examined for the total data to determine the “point of inflexion,” though a visual interpretation was problematic (Henson & Roberts, 2006). Visually, four, five, six, or seven factors could have been suggested. Statisticians such as Field (2005) argue convincingly that the use of scree plots should be limited, and never serve as the sole determinant of the number of factors in a data set. In this case, the scree plot did not suggest a distinct number of factors, as three factors were clearly higher (between 2 and 6), and 4 other factors were grouped closely with eigenvalues just above one.

After the preliminary visual analysis of eigenvalues, a statistical analysis was run using Kaiser’s criterion of retaining all factors with eigenvalues greater than one (A. Field, 2005). This analysis identified seven underlying factors in the SSDRS aggregate data, confirming what the visual inspection of the scree plot had suggested. Direct oblimin, an oblique rotation method, was employed in the analysis since there was a strong theoretical reason to believe that some of the subscales in the SSDRS may have been correlated, as is inevitable when attempting to measure behavioral data. For example, it would have been unrealistic to assume that disability impacting personal relationships would not also be impacting global perceptions of disability stigma. Rotation is commonly used in factor analysis to improve the interpretation of individual factor loadings. In this case, selection of the rotation method also helped structure the
data analysis for subscales that realistically would be expected to have some degree of inter-correlation. Again, some researchers suggest that the Kaiser results be interpreted with caution, and never be the sole determinant of number of factors (Henson & Roberts, 2006).

An exploratory factor analysis was also computed forcing a five factor model as originally outlined in the pilot data analysis. For consistency, this analysis employed maximum likelihood and direct oblimin methods. The results were similar in terms of overall variance explained to the seven factor model, but with very different individual factor loadings and implications for organization of the subscales. To make further comparisons, six factor and four factor models were also calculated and briefly compared.

As Field (2005) points out, the decision about how many factors to ultimately extract is in large part driven by the purpose in the study. More importantly, he believes that the computer and the statistics it generates should not determine the final decision about the number of factors (p. 655). Instead, the researcher should use theoretical information, design considerations, and experience combined with the statistical data to make the determination (Henson & Roberts, 2006). In some cases, it may be appropriate to run multiple factor analyses that test for different levels of significance, manipulating a delta value, and choosing the one with the best fit (Darlington, 1997). In all circumstances, the final determination should be based on collective evidence.
Results for the Seven Factor Model

The seven factor model was initially superior to the six factor, five factor, and four factor models in terms of overall variance explained (63.8%) and strength of factor loadings. Factors that loaded at less than .3 were suppressed, as many statisticians see that as a reasonable threshold for screening out less significant loadings (A. Field, 2005; Henson & Roberts, 2006). The following structure matrix, reported in full, was the result:

Table 7

SSDRS Aggregate Factor Analysis (N = 121) using Maximum Likelihood Extraction and Direct Oblimin Rotation, with Seven Factors.\(^a\)

<table>
<thead>
<tr>
<th>Item#</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q17</td>
<td>[.968]</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Q12</td>
<td>.740</td>
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<td></td>
<td>.364</td>
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<tr>
<td>Q16</td>
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<td>.318</td>
<td></td>
<td>-.323</td>
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<tr>
<td>Q8</td>
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<td>Q15</td>
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<td>.557</td>
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<tr>
<td>Q14</td>
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<td>.431</td>
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</tr>
<tr>
<td>Q9</td>
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<tr>
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<td>.634</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q19</td>
<td>.453</td>
<td></td>
<td>.496</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>.364</td>
<td>.317</td>
<td>.493</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td></td>
<td></td>
<td>.409</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q24</td>
<td></td>
<td></td>
<td>[.634]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q23</td>
<td></td>
<td></td>
<td>[.610]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Items in the pilot subscales appear in bold. Items that fell out of their original pilot subscale are bracketed.

An examination of the individual factor loadings suggested that items 9, 17, 23, and 24 might not belong in the subscales they were placed in during the pilot stage, or
might need to be reexamined as appropriate items in the overall scale. However, the
other 20 items fit well within the five factor model first suggested in the pilot analysis.

The Cronbach alphas for the subscales, the measure of internal consistency, were
above .7, or reasonably close. One goal of the psychometric development of the SSDRS
was to see an increase in the reliability of the subscales in subsequent administrations.
The results did improve, reported as follows for the aggregate data:

Table 8

SSDRS Cronbach Alphas for Aggregate Data (N = 121)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Feelings (6, 8, 16)</td>
<td>.742</td>
</tr>
<tr>
<td>Global Events (2, 3, 7, 21)</td>
<td>.671</td>
</tr>
<tr>
<td>Academics (11, 13, 18)</td>
<td>.660</td>
</tr>
<tr>
<td>Group Identity (12, 14, 15, 20)</td>
<td>.613</td>
</tr>
<tr>
<td>Relationships (1, 4, 5, 10, 19)</td>
<td>.752</td>
</tr>
</tbody>
</table>

Noting that the fifth and seventh factor in the seven factor model were somewhat
uninterpretable, as they contained negative factor loadings and items that fell out from
other subscales, another exploratory factor analysis with complete loadings was
computed deleting items 9, 17, 23, and 24 and presuming five factors as in the original model. Researchers normally seek the most parsimonious model for understanding a phenomenon, or in terms of instrument development, they seek to account for the most shared variance using the fewest possible factors (Henson & Roberts, 2006).

The output for the five factor model resulted in mostly satisfactory individual factor loadings. All items loaded on their home subscales. The results are reported as follows:

<table>
<thead>
<tr>
<th>Item#</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4</td>
<td>.772</td>
<td>.168</td>
<td>.240</td>
<td>-.080</td>
<td>.330</td>
</tr>
<tr>
<td>Q5</td>
<td>.668</td>
<td>.115</td>
<td>.222</td>
<td>.303</td>
<td>.427</td>
</tr>
<tr>
<td>Q10</td>
<td>.648</td>
<td>.155</td>
<td>.157</td>
<td>.018</td>
<td>.373</td>
</tr>
<tr>
<td>Q19</td>
<td>.525</td>
<td>.313</td>
<td>.247</td>
<td>.041</td>
<td>.249</td>
</tr>
<tr>
<td>Q3</td>
<td>.505</td>
<td>.172</td>
<td>.310</td>
<td>-.139</td>
<td>.342</td>
</tr>
<tr>
<td>Q1</td>
<td>.435</td>
<td>.169</td>
<td>.145</td>
<td>-.068</td>
<td>.129</td>
</tr>
<tr>
<td>Q22</td>
<td>.148</td>
<td>-.040</td>
<td>-.019</td>
<td>-.128</td>
<td>-.033</td>
</tr>
<tr>
<td>Q16</td>
<td>.251</td>
<td>.747</td>
<td>.234</td>
<td>.235</td>
<td>.170</td>
</tr>
<tr>
<td>Q12</td>
<td>.128</td>
<td>.710</td>
<td>.186</td>
<td>.295</td>
<td>.113</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Q6</td>
<td>.065</td>
<td>.709</td>
<td>.271</td>
<td>.114</td>
<td>-.071</td>
</tr>
<tr>
<td>Q14</td>
<td>.223</td>
<td>.616</td>
<td>.022</td>
<td>.364</td>
<td>.432</td>
</tr>
<tr>
<td>Q8</td>
<td>.097</td>
<td>.614</td>
<td>.225</td>
<td>.180</td>
<td>.119</td>
</tr>
<tr>
<td>Q18</td>
<td>.126</td>
<td>.292</td>
<td>.647</td>
<td>.133</td>
<td>.122</td>
</tr>
<tr>
<td>Q13</td>
<td>.254</td>
<td>.197</td>
<td>.637</td>
<td>-.164</td>
<td>-.030</td>
</tr>
<tr>
<td>Q11</td>
<td>.454</td>
<td>.290</td>
<td>.566</td>
<td>.106</td>
<td>.004</td>
</tr>
<tr>
<td>Q15</td>
<td>-.058</td>
<td>.332</td>
<td>.069</td>
<td>.572</td>
<td>-.051</td>
</tr>
<tr>
<td>Q20</td>
<td>-.159</td>
<td>.203</td>
<td>-.133</td>
<td>.526</td>
<td>.220</td>
</tr>
<tr>
<td>Q2</td>
<td>.361</td>
<td>.152</td>
<td>.011</td>
<td>-.055</td>
<td>.869</td>
</tr>
<tr>
<td>Q7</td>
<td>.337</td>
<td>.105</td>
<td>.103</td>
<td>.313</td>
<td>.727</td>
</tr>
<tr>
<td>Q21</td>
<td>.291</td>
<td>.230</td>
<td>-.155</td>
<td>.201</td>
<td>.418</td>
</tr>
</tbody>
</table>

*Items in original subscales appear in bold.

The factor loadings for the specific subscale items in the final exploratory analysis all loaded higher than .295, and the mean loading was .554. Only three items failed to load at the .4 level or higher. In addition, the overall Cronbach Alpha for the scale was .803, which by most research standards was an acceptable degree of reliability (A. Field, 2005). The overall loadings matched the original subscales and were evidence of stability for the 20 items tested.
Descriptive Statistics for Aggregate Data

Having made the case for aggregating the data, and then examining the underlying factor structure and determining on the five factor model, the descriptive statistics for the full data set \((N = 121)\) were examined. The means and standard deviations for the individual items were reasonably uniform across the full scale, with the exception of questions 3 and 4. Questions 3 and 4 were already discussed within the context of the VCU data and the consideration of kurtosis and skewness. In light of these item means and their place in the full data set, some future consideration should be given to rewording them in such a way that they generate responses more in the line with the rest of the items. The fact that they indicated lower stigmatization is not necessarily sufficient reason to remove them, although it is sufficient to indicate reexamination. The means and deviations for the aggregate data are presented in the following table:

Table 10

*SSDRS Aggregate Data Item Means and Deviations (N = 121)*

<table>
<thead>
<tr>
<th>Item#</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>1.79</td>
<td>1.024</td>
</tr>
<tr>
<td>Q2</td>
<td>1.19</td>
<td>1.067</td>
</tr>
<tr>
<td>Q3</td>
<td>0.78</td>
<td>0.851</td>
</tr>
<tr>
<td>Q4</td>
<td>0.66</td>
<td>0.962</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>Q5</td>
<td>1.53</td>
<td>1.057</td>
</tr>
<tr>
<td>Q6</td>
<td>1.62</td>
<td>1.105</td>
</tr>
<tr>
<td>Q7</td>
<td>1.06</td>
<td>0.869</td>
</tr>
<tr>
<td>Q8</td>
<td>1.54</td>
<td>1.017</td>
</tr>
<tr>
<td>Q9</td>
<td>2.36</td>
<td>1.505</td>
</tr>
<tr>
<td>Q10</td>
<td>1.56</td>
<td>1.210</td>
</tr>
<tr>
<td>Q11</td>
<td>1.80</td>
<td>1.054</td>
</tr>
<tr>
<td>Q12</td>
<td>1.41</td>
<td>1.006</td>
</tr>
<tr>
<td>Q13</td>
<td>1.73</td>
<td>1.169</td>
</tr>
<tr>
<td>Q14</td>
<td>2.17</td>
<td>1.093</td>
</tr>
<tr>
<td>Q15</td>
<td>2.76</td>
<td>1.211</td>
</tr>
<tr>
<td>Q16</td>
<td>1.43</td>
<td>1.079</td>
</tr>
<tr>
<td>Q17</td>
<td>1.40</td>
<td>0.926</td>
</tr>
<tr>
<td>Q18</td>
<td>2.19</td>
<td>1.171</td>
</tr>
<tr>
<td>Q19</td>
<td>1.18</td>
<td>1.204</td>
</tr>
<tr>
<td>Q20</td>
<td>1.15</td>
<td>1.195</td>
</tr>
<tr>
<td>Q21</td>
<td>1.28</td>
<td>1.112</td>
</tr>
<tr>
<td>Q22</td>
<td>2.79</td>
<td>1.171</td>
</tr>
<tr>
<td>Q23</td>
<td>1.51</td>
<td>1.272</td>
</tr>
<tr>
<td>Q24</td>
<td>2.45</td>
<td>1.140</td>
</tr>
</tbody>
</table>
Given that the SSDRS produced reasonably valid and reliable scores, the highest mean scores on individual items should have indicated situations that students were the most stigmatized by. In the aggregate data, the highest means were for items 9, 15, 22, and 24. The lowest items were 3 and 4 which have already been discussed. Of the high and low items, 15 and 22 are of the greatest interest because they fit well within the evolving disability stigma model initially put forth in the study. Question 15 asked about getting support from other students. Question 22 asked students with disabilities needing more academic support.

The demographic statistics for the aggregate data could not be computed for visible or invisible disability, age, and disability type due to the changes were made through the IRB process in the questionnaire. However, the item for gender did remain constant. Of the 121 respondents in the aggregate data, 52.9% were female, and 47.1% male. These numbers are very consistent with the gender breakdown in the larger populations at each of the three study schools.

With the deletion of several items after EFA procedures, the final arrangement of the subscales was altered slightly. The subsequent descriptive statistics for the aggregate data are presented in the following table:
Table 11

SSDRS Subscale Means and Descriptive Statistics for Aggregate Data (N = 121)

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean (per item)</th>
<th>Range</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Feelings</td>
<td>4.59 (1.53)</td>
<td>0 – 11</td>
<td>2.60</td>
</tr>
<tr>
<td>Global Events</td>
<td>4.31 (1.08)</td>
<td>0 – 12</td>
<td>2.79</td>
</tr>
<tr>
<td>Academics</td>
<td>5.72 (1.91)</td>
<td>0 – 12</td>
<td>2.62</td>
</tr>
<tr>
<td>Group Identity</td>
<td>7.50 (1.88)</td>
<td>0 – 13</td>
<td>3.07</td>
</tr>
<tr>
<td>Personal Relationships</td>
<td>6.73 (1.35)</td>
<td>0 – 18</td>
<td>3.88</td>
</tr>
<tr>
<td>TOTAL SCORE</td>
<td>28.83 (1.44)</td>
<td>2 – 49</td>
<td>9.90</td>
</tr>
</tbody>
</table>

Bivariate Correlations for the Aggregate Data

Factor analysis considered correlations within subscales, but theory and practice suggested some items would correlate across subscales. Several items in the aggregate data correlated outside of their home subscale, and were of theoretical note.

Question 1 correlated significantly with questions 3 and 11, p < .05. When combined, these items suggested that students who were thinking about their disability frequently were also feeling frustrated about school and believed that their teachers viewed them as having shortcomings. Psychological theory and sociological research
confirm that the way that students tend to view themselves is directly linked to stigma effects they experience (Crocker & Quinn, 2000).

Question 2 related to many questions in and out of its home subscale, $p < .05$. Question 2 is a global item, asking about students with disabilities and whether or not they receive as many opportunities as those without disabilities. Question 2 was negative related to question 15, getting support from other students. Research suggests that children with disabilities (who later become college students with disabilities) quickly develop a sense of the loss of opportunity if they are not taught to accept their disability identity and take personal responsibility at an early age (Curwin, 2003).

Question 19 related significantly to 13 of the 20 SSDRS items, $p < .05$. Question 19 asked about disability straining personal relationships. This correlation suggested that the emotional strain caused by disability stigma was significant across all areas of college life. In fact, this question may reflect the heart and soul of the global stigma effect being measured. Most attempts at measurement of stigma acknowledge the pervasive nature of its effect that bleeds into various social areas (Swanson et al., 2001).

Question 14 also related significantly to 13 of the 20 SSDRS items, $p < .05$. Question 14 asked about the degree to which other students were perceived as understanding about disabilities. The fact that this item correlated so heavily with many other items suggests again that students in the aggregate data are heavily stigmatized by worry about what others think of them, or what they perceive as a lack of understanding about disabilities and/or the need to accommodate for disabilities (Grossman, 2001).
Preliminary Discussion of Results

The results of the SSDRS aggregate data analysis confirmed the existence of measurable disability-related stigma in several postsecondary settings. In particular, the spread of total scores between 2 and 49 out of 80 indicated an important degree of sensitivity in the instrument. More importantly, the results provided evidence that the SSDRS produced reasonably valid and reliable scores within the sample population, and could differentiate to a degree between types of disability stigma effect.

In considering what analyses to use, which tests to run, and what statistics to report, two primary purposes remained paramount throughout the study: first, showing sufficient variability of scores results in order to be able to generalize the results (external validity of scores); and second, sufficiently determining the psychometric properties of the SSDRS in order to confirm the internal validity and reliability of scores.

In particular, careful attention was paid to possible restrictions in the range of scores and to the consistent administration of the survey (McMillan & Schumacher, 2006). The results, as reported—including subtest correlations, specified R’s, group contrasts, and factor analysis—provided evidence in both of these areas. In particular, the variation between responses on various questions was generally consistent; that is, the standard deviation was a relatively large percentage of the possible range of scores, while at the same time the structure of the subscales remained reasonably strong, particularly after the later deletion of several items in the final exploratory factor analysis with the aggregate data.
The "gestalt" of determining whether the SSDRS measured well what it was intended to measure was the accumulation of all of the data analyses, and the face validity provided by peer review, student comments, past research and the extensive literature on the subject (Litwin, 2003). Ultimately, construct validity for the SSDRS will be added to by future repeated administrations. While the initial psychometric properties of the survey were satisfactory in many ways, future data collection will inform and reinforce the evolution of the scale.

On a practical level, the SSDRS results appeared to suggest some preliminary findings about the sample population of DSS students at all three schools. First, and perhaps most importantly, the range of scores between 2 and 49 out of possible 80 suggested that students with disabilities do experience measurable disability stigma, and that the level of stigma varies. While this may not seem at first to be a groundbreaking statement, the notable dearth of quantitative disability measures must place this information in a more urgent context (Hahn & Hegamin, 2001). Disability support services are often set up to deal with the practical obstacles that students with disabilities face; the installation of a ramp to allow access to a building, or the accommodation of extra time on a final exam. Disability support services are generally not set up to deal with the effects of disability stigma.

From a practical standpoint, the standard deviations for all of the subscales and on the total scale indicate that students have great variability in how they interpret their degree of disability stigmatization. The average deviation of 1.44 per item suggested that students did find sensitivity in the scale, since the range of possible responses was
restricted to 0 through 4. If the descriptive statistics suggested some tentative hypotheses about the sample population, they might include the following. The highest mean per item response was within the subscale for Academics. This was not surprising in one sense, since college students are primarily working to receive a grade. Students with disabilities often report, as they did in the preliminary phase of the SSDRS, that one of their greatest fears is that a professor will treat them differently once they know about their disability. The second highest mean per response item subscale was Group Identity. This may indicate that students with disabilities have a difficult time assuming or adopting a more global disability identity. In fact, Davis (2002), Fleischer and Zames (2001), and many other disability scholars make it clear that this is a primary factor in the lack of support given to the Disability Rights Movement by those who might hypothetically be assumed to be supporting it the most. The combination of these two subscales suggests that students with disabilities struggle to accept their identity as an individual with a disability. In a larger context, this is a rational human behavioral trait when confronted with possible negative consequences. It none the less suggests that stigma is a more serious problem than some are willing to admit.

If, as it seems from the evidence, students with disabilities who have self-disclosed at all three schools are experiencing measurable disability stigma, then other questions easily come to mind. What role does the DSS office play, or need to play, in reducing disability stigma? Does that role of reducing stigma primarily manifest itself primarily through education of the campus community? What counseling, training, or
linked services does the DSS office need to offer to students who are negatively stigmatized?

The widest variation occurred within the personal feelings subscale. The deviation per item was nearly .9, or almost one full interval on the Likert-type scale. This was also likely a reflection of the struggle to make peace with disability identity, and indicated that students vary in their emotional response to the issue. The highest individual item mean score was on question 15, which asked about getting support from other students with disabilities. This suggested that students with disabilities don’t feel like they are supported by other students with disabilities as they confront the issue of stigma.

The variation of scores on the SSDRS in the aggregate data and on all the subscales tended to confirm that students experience stigma in large part based on the degree to which they accept their disability identity. The social, emotional, and academic consequences of disability stigma were metaphorically “on the other side of the road” for the respondents, and particularly so for students with invisible disabilities who had more implied control over information management. When they crossed the road, metaphorically, they may have begun to accept their disability identity, but they also opened themselves to negative stigma effects.

The SSDRS results probably indicated, as well, that students using DSS services at all three schools were struggling with when and how often to “cross the road.” Some will eventually become more expert at crossing at the crossing, while some will turn back, and some will even turn disability stigma to their advantage (Marvasti, 2004).
Of course, students presumably would not disclose their disability unless they anticipated potential benefits. The SSDRS was not designed to provide a risk-benefit analysis, but the results did indicate that respondents were engaged in an informal benefit analysis all of the time (Gregory & Satterfield, 2002). By responding to the subscales honestly, respondents are essentially engaging in a disability stigma cost benefit analysis.

In fact, the very design of the subscales, strengthened by exploratory factor analysis, suggests the ways in which the disability stigma experience can vary from student to student. The higher subscale Cronbach alphas, between .61 and .75 for the aggregate data suggest that the scale might be further refined to measure even more subtle differences between individual student experiences. This is also true in light of the cross subscale correlations already noted earlier.

Students who don’t disclose their disability save themselves from negative stigma, but must pursue success without accommodations. For students with more obvious physical disabilities, there may be no choice—they may be trapped in a cycle of “passing” and “denial” (Edgerton, 1967).

The examination of the psychometric properties of the SSDRS indicated evidence of valid and reliable scores, and at a minimum encouraged further development and usage. The results also suggested more qualitative trends that will likely be worthy of further investigation. The SSDRS scores highlighted the need and postmodern imperative for action to understand, measure, and reduce disability stigma. Reduction, however, cannot occur without measurement.
CHAPTER V
Conclusions and Recommendations

"Was there ever any domination which did not appear natural to those who possessed it?" John Stuart Mill asked. The experiences of individuals with disabilities have defied adequate explanation in part because they have been ignored by those in positions of influence (Susman, 1994). In fact, it is only recently that the scientific measure of disability has become a fledgling discipline in its own right (Hahn & Hegamin, 2001). It is only recently that well-known individuals in public situations have found it socially acceptable to talk about their disability openly: Tom Cruise, John Irving, and Charles Schwab, for example. The climate appears to be shifting (Davis, 2002).

Most previously developed measures of disability were scales that focused primarily on daily living skills and related self-care activities. Very few of them focused on the actual experience of having a disability as it impacted personal identity, or shaped individual personality. Even fewer, if any, measured stigma specifically in the postsecondary environment. Most were based on the biased, and now increasingly outdated medical model for interpreting disability experience that attributes the cause of disability to purely physical disorders (Davis, 2002; Hahn & Hegamin, 2001; Neufeld & Mohan, 2000; Winzer, 1997).

The SSDRS deliberately parted ways with the more traditional medical model for interpreting disability, and focused on the disability experience through a more
constructivist paradigm that acknowledged the uniqueness of each individual's experience with disability. The attempt was commensurate with changes that are occurring in various settings, including the public schools, where the reauthorization of IDEA (2004) has suggested that the uniqueness of disability and individual students is complex enough that the old definitions are no longer adequate. The interviews conducted in the initial stages of the research design in many ways provided the most important framework for the study, in addition to furnishing the practical data necessary to generate survey items.

The premise in the development of the SSDRS was that disability is a social construct, and is therefore unique in terms of individual and group dynamics (Davis, 2002; Longmore, 2003; Longmore & Umansky, 2001). In a broad sense, the definition of disability at VCU was determined by the tacit norms enforced and established by the campus community, regardless of whatever DSS policies were in place.

None the less, the SSDRS was a quantitative project, involving measurement and psychometrics. Phillips and Burbules (2000), among others, remind researchers of the pitfalls that over-reliance on a strictly non-scientific methodology can lead to, including: a lack of quality evidence, a lack of rigor, and a failure to consider and/or eliminate rival hypotheses. The development of the SSDRS, while utilizing many interpretive tools and decidedly postmodernist in philosophical outlook, was ultimately a unified investigation that focused, as Phillips and Burboles (2000) recommend, on rigorous warrants for conclusions:

"The postpositivist approach to research is based on seeking appropriate and adequate warrants for conclusions, on hewing to standards of truth and falsity that
subject hypotheses (of whatever type) to test and thus potential disconfirmation, and on being open-minded about criticism” (pp. 86-87).

The SSDRS was therefore subjected to hypothesis testing, psychometric validation, disconfirmation, and critical analysis. Careful attention was given to the relationship between the observer and observed to control for experimental effect and observer bias (Hahn & Hegamin, 2001; McMillan & Schumacher, 2006). Multiple administrations were incorporated into the piloting of the instrument. The questions were challenged repeatedly for meaning and clarity.

After future administrations of the SSDRS, and with a larger sample size of respondents, other types of statistical analysis may be undertaken, including logistic regression to predict for stigma effects, or hierarchical regression to further analyze subscale reliability (Ryngala, Shields, & Caruso, 2005).

The contentious nature of any attempt to define disability did not ultimately interfere with the design of the study; in fact, it informed it. A basic premise of almost all modern disability research is that disability is socially constructed (Davis, 2002; Longmore, 2003; Longmore & Umansky, 2001). For this reason, an appreciation of the history of disability stigma was essential to understanding and interpreting what could be potentially meaningless numbers or statistics. In some ways, the SSDRS attempted to quantify the unquantifiable (Kearney, 2003).

However, if social change is possible, and desirable, it must begin with some type of narrative discourse, and then be followed up with a more specific means for making practical decisions or judgments. In this case, the use of a predetermined cluster of students who were academically labeled as having a disability provided the initial
discourse and the definition of the problem; the verification of the psychometric
properties of the SSDRS provided the tool to measure and quantify the problem, and thus
facilitate another step in the direction of reform.

Observations during Data Collection

During the course of administering the SSDRS at three different schools, in three
very different settings, the researcher had ample opportunity to observe and consider the
behaviors and reactions of students completing the surveys. After reviewing field notes,
consulting with partners who helped at each school, and re-examining the literature on
college students with disabilities, several observations were noteworthy.

First, the students who came into DSS offices to access services were generally
leery of anything that hinted at additional paperwork. Many seemed relieved that the
survey was only a handful of questions. This may reflect in part our survey-laden
culture, but it likely also reflects the enormous amount of paperwork associated with
getting accommodations. At the postsecondary level, students often have to provide
copies of complete educational and/or psychological evaluations in order to be
considered for accommodations. In some cases, they must undergo additional testing to
qualify. Their initial reaction indicated a weariness of yet another piece of paper to
complete.

Second, practically all of the students who were asked to complete the SSDRS
actually completed the survey. Only one student at VCU declined to complete the
survey, several at JSRCC, and no one declined at R-MC. The high rate of acceptance may indicate that students with disabilities who have self-disclosed at colleges and universities are aware of stigma effects, and saw the survey as a chance to address the issue.

In fact, the most important observation made was that a number of students were genuinely interested in the topic that the SSDRS addressed. Numerous students asked after completing the survey how the information was going to be used. When they found out that an element of the project was essentially action research, or an attempt to bring focus for change, they all indicated their full support for such a process. A number also expressed gratitude that someone was interested in how they felt about the issue.

Collectively, these observations provided further evidence that the SSDRS was a timely and important project. They also provided optimism for the viability of future attempts to sample data from a similar population of students.

Implications for DSS Practice

While a primary focus of the SSDRS study was always to determine the psychometric properties of the instrument, the process was never divorced from the desire to provide some generalizability to the larger postsecondary world of students with disabilities, and to suggest more practical trends that might help students with disabilities at the postsecondary level become more successful. In conjunction with this understanding, several important implications for practice were noted.
First, and perhaps most importantly, the SSDRS showed promise of possibly being a mechanism to inform decisions about what interventions in the short run would help a student with disabilities adjust and survive in the stigma-filled postsecondary environment. In more practical terms, the results of an individual administration of the SSDRS might suggest to a DSS service provider what kind of survival workshop or skills training would help students in their transition. DSS administrators could theoretically administer the SSDRS to all incoming freshmen with disabilities, and adjust their programming focus accordingly.

The SSDRS could also serve as a benchmarking tool. It is not realistic to believe that in the near future another similar sample of college students with disabilities might be given the SSDRS and all score zeros, indicating that they experienced very little, or no disability-related stigma. Instruments like the SSDRS can potentially provide more than just a starting point for the debate. They can literally serve as snapshots in time that measure practical progress in combating stigma (Hahn & Hegamin, 2001). Progress in race relations has been quantitatively measured using similar tools (Mudd, 1987; Utsey & Ponterotto, 1996).

The results of the SSDRS might be used to take other practical actions in DSS offices. Viewed as a “treatment” or experimental intervention, the SSDRS could be used to educate college students with disabilities about stigma. If administered during the disclosure process, the SSDRS might be used to help students feel less stigmatized by the administrative requirements necessary to setting up accommodations. It could be incorporated with the overall freshmen student orientation program. Having such a tool
in an orientation packet might actually lead to student disclosure in cases where it might not otherwise occur.

DSS offices have very few tools currently available to them that are designed to help with self-assessment of services, or to evaluate the effectiveness of programming. The SSDRS might find use immediately in many situations where a DSS administrator needs to find out what types of programming are needed, what students feel would be helpful, and how the global campus climate as it relates to disabilities would benefit from change. The SSDRS could even be used in a classic pretest/posttest experimental design to verify the effect of an intervention aimed at reducing disability stigma.

The results of any of these uses might make positive change on campus much more likely. Borrowing from the semantics of the items in the SSDRS, progress could potentially mean that students would not feel that they were treated quite so differently by their professors; students with disabilities might feel somewhat more accepted in the diverse campus environment they inhabit; students might not feel that their friends treat them so differently because of a disability.

It’s possible, too, that the major issues will change and render instruments like the SSDRS less necessary. Access to higher education for individuals with disabilities may improve, terminology might become less divisive, opinions might change, and the process of social construction and deconstruction could possibly render instruments like the SSDRS obsolete. Perhaps accommodating students with disabilities in the mainstream, both K-12 and postsecondary, will move beyond the “colonization” stage
where token efforts at inclusion have failed in the past to address pervasive
discrimination (McPhail & Freeman, 2005).

The postmodernist spirit behind much current social science research, however,
reserves the right to remain irrationally skeptical and to lobby for action rather than
continued status quo. The Civil Rights Movement and the Women’s Rights Movements
began with genuine anger and with unresolved questions about the status quo. The
SSDRS can, in that light, only be viewed as a small starting point. Action must
necessarily begin or be maintained through the energy of DSS offices.

It is also important to note that formal accommodations in the postsecondary
environment are unique phenomena, less than 50 years old in most cases. Yet the global
stigma that the SSDRS attempts to measure has been in existence in various forms for
thousands of years (Westbrook et al., 1993). It is simply not realistic to believe that
stigma will significantly change or disappear within a short time frame, regardless of
what other events occur. All of the myriad sociological frameworks for understanding
stigma—identity theory, labeling theory, group behavior theory—are consistent in
suggesting that stigma will not easily be eradicated.

Limitations

There were several important limitations in this study. First and foremost, the
sample population was taken from only a portion of the universe of college students with
disabilities (Patterson et al., 1984). The sample did not draw from any of the following
groups of postsecondary students with disabilities: those who had chosen not to disclose their disability to the college or university; those who for whatever reason chose not to access DSS services during the study timeframe; those students who declined, possibly for reasons of stigma, to participate in the survey; and those who simply were missed due to administrative error or timing. The inclusion of any or all of those subgroups of students might have significantly changed the outcome of the stigma scores and patterns (though not necessarily the psychometric properties of the SSDRS).

Another concern throughout the study was total sample size. Each of the data collections involved a relatively small number of students (38, 47, and 36) mainly due to the fact that even at large universities, very small numbers of students actively use services at the DSS office. The study population, college students with disabilities, is a fragile population, sometimes nebulously defined by immediate need, that shifts and changes each semester. Stigma is both a dependent variable and a confounding variable in the sense that those who experience the most stigma may be the most difficult to identify and study. The qualitative interviews conducted in the beginning of the study suggested that students might react to stigma by withdrawing from accommodations, or distancing themselves from their disability identities. Future administrations of the SSDRS may allow for the aggregation of data across postsecondary environment types, accounting for regional, structural, and philosophical difference between schools, but it is likely that samples at any one given institution will remain small due to the aforementioned circumstances. As evidence for the psychometric properties of the
SSDRS continues to be collected, the examination of aggregating data will become more
germaine as well.

An anticipated consideration had to do with invisible verses visible disabilities.
Do these conditions carry different consequences? Are the stigma experiences
substantially different? Goffman’s (1963) research continues to stand alone as the
paradigm for understanding stigma in terms of information management. Students with
invisible disabilities, according to Goffman’s theory, should encounter fewer negative
consequences. This issue was addressed in the development of the instrument by
including an item to report whether the respondent had a visible or invisible disability.
As it turned out, the vast majority of respondents had invisible disabilities, so that the
aggregate data essentially was a measure of that subgroup of students with disabilities.
While that served the immediate purposes of the study, it leaves unanswered the larger
questions about how visible and invisible disabilities vary in relation to total and specific
stigma effects.

Attention was also given to the fact that the SSDRS collected very sensitive and
personal information. Because students and individuals in general may be hesitant to talk
about issues related to disability stigma, there was always the danger of respondents
underreporting stigma effects. Fortunately, the interviews, IRB process, and multiple
pilot phases of the SSDRS rendered the instrument more sensitive in terms of wording,
procedure, and overall effect to the delicate nature of the issues being surveyed
(Lepkowski, Couper, Mathiowetz, Tourangeau, & Raghunathan, 2006). The researcher’s
own experience as an individual with a disability, work in disability-related research, and
interactions in and out of the classroom with students with disabilities, all helped to temper and render the entire process more sensitive.

Finally, a limitation of the SSDRS study was that it only had 24 stigma response items. While this number made for easy completion by respondents, there is some evidence that having more items would allow for the construction of a more detailed framework for better understanding disability stigma in college students. This limitation may be complicated in the future by the deletion of four items in the final exploratory factor analysis. While this is an open issue for any future use of the SSDRS, it was beyond the scope of this study.

Final Thoughts

Disability-related stigma does not just impact the college students who experience prejudice or discrimination. Stigma is in some ways like an infectious disease with consequences that can easily spread from the victim to those around him or her (Gokhale, 1985). Attitudes about disability are symptomatic of the overall level of understanding, acceptance, and support that a community offers all of its members.

The victim is not to blame for the predicament in which this places postsecondary institutions (Anonymous, 1998). Gokhale (1985) specifically explains:

"The type of social philosophy prevailing in society and the extent to which society accepts responsibility for the individual may create discriminatory behavior."

Institutions of higher education do impact the social philosophy and norms of the larger community. In fact, colleges and universities expend a great deal of energy and
effort identifying and promoting their social contributions to the community. It is essential to understand that contribution in order to attract potential students and supporters. Institutions must be able to articulate what makes them different from other colleges and universities. By definition and mission, some colleges and institutions are more open to disability dialogue and promoting equal access to higher education, even while all are held to a common legal standard (Coleman, 1997; Grossman, 2001).

Disability-related stigma is not just an effect that individuals with disabilities must confront. On the contrary, it is part of a global system of social interaction that has a life of its own, and affects all of its members. It is a global system that often has no "good guys" or "villains." The responsibility for fairness rests on the institution, even if the definition of fairness is partially determined by forces beyond the institution, such as legislation, executive order, or popular media.

Change also requires that college students with disabilities accept their roles within the community. Gokhale (1985) believes that it may be just as important to change the attitudes of those with disabilities, as it is to change the attitudes of the "normals." Rather than counseling students with disabilities to blindly fight the system that binds them, they may be better served in attempting to reach peace within an agreed upon neutral ground.

The development of the SSDRS was a limited endeavor. The SSDRS did not answer directly either of the fundamental questions poised by Coleman (1997) in her global analysis of stigma: What is stigma? Why does stigma remain? Coleman insists that the examination of stigma must be a multidisciplinary endeavor that addresses fear,
stereotyping, and social control. In that spirit, the development of the SSDRS was a cross-disciplinary project. The historical analysis of stigma in the literature review, for example, tempered everything in the subsequent design of the instrument, and provides rich evidence of the legacy the SSDRS springs from historically.

The SSDRS is very compatible with a new category of postmodern critical examinations that critique long-standing social institutions. The smothering fatalism that encompassed most individuals with disabilities before 1800, has now become more of a give and take dialogue within that shift (Winzer, 1997). The evolution of qualitative methods, albeit controversial, served notice that blind empiricism couldn’t adequately answer the great social questions of the times. The development of the SSDRS was an empirical endeavor, certainly, but one that could not possibly escape the social context within which it was undertaken.

The cogency of the disability stigma issue is heightened by more than the growing numbers of postsecondary students with disabilities seeking academic accommodations. Since War World I, more than 2.5 millions veterans have become disabled. More than 20 million Americans have been disabled in the workplace (Mudd, 1987; O'Brien, 2001; Owen, 2004). The SSDRS is part of a larger moral imperative questioning the status quo, and demanding that disability be dealt with in an open format.

While educators in the postsecondary setting may be the most concerned with the practical issues of academic success and community diversity, other researchers have shown that disability stigma impacts the overall health of the entire community, and even impacts the economic success of entire countries and social groups (Gregory &
Satterfield, 2002). This is why Davis (2002) maintains that disability is the issue of the
new century. Tom Shakespeare (1997) calls disability the most prominent metaphor of
our time. Rosemarie Garland-Thomson (2002) calls disability the system that enforces
privilege.

Within this context, the SSDRS was not only a timely project, but one that has the
potential to be part of a much larger and important movement in social science research.
The information gathered during the study may help provide disability support services
offices with additional ideas that will help address the needs of postsecondary students
with disabilities and improve the programs that support them (S. Field et al., 2003). It
may indirectly contribute to students being better equipped to perform the cost benefit
analysis of disclosure, and grow more comfortable with their disability identity. It may
contribute to an overall improvement in campus climates that will allow individuals with
disabilities to become more fully integrated into the world of postsecondary education.

Most importantly, it may finally help describe and identify a social ill that has
been ignored and or intentionally unaddressed for far too long. By doing so, progress
becomes more likely.
List of Reference
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Crider, E. (2002). *SURF presentation to the faculty at Randolph-Macon College on the portrayal of mental illness and disability in popular culture.* Randolph-Macon College, Ashland, VA.


APPENDICES
Appendix A

Qualitative Phase of Pilot Interview Questions

1. When did you first find out that you had a learning disability? What kind of learning disability is it?
2. How did you feel about it at that time? How do you feel about it now?
3. What changes did you notice at school after you found out that you had a learning disability?
4. Do you (or did you) feel “normal” when you’re (you were) in the classroom?
5. Tell me about an incident in school where your learning disability caused you to not be completely successful in an activity or assignment.
6. How have your previous teachers accommodated you? (can include high school)
7. How were some previous teachers better than others in helping you learn?
8. In what ways have you noticed your learning disability impacting you in college?
9. How typical was the class I observed a few days ago?
10. Define accommodations in your own words.
11. In what ways did (or do) professors accommodate you beyond what they are required to do?
12. Tell me about a college class where the professor has done an effective job of accommodating you.
13. What accommodations have you not received that would be helpful?
14. What do you do to accommodate your learning style in class?
15. How much do you talk to professors about your disability or unique learning patterns?
16. Which study strategies do you find most useful to prepare you for class?
17. What evidence do you have that the college is sensitive to the issue of disability?
18. Tell me something you would like to share with people on campus who don’t have a learning disability.
Appendix B

Final version of SSDRS survey

Postsecondary Student Survey of Disability Related Stigma

Dear Student: Thank you for volunteering to fill out the following survey. When circling your responses, keep in mind your opinions and feelings as a student with a disability. On this survey, disability refers to disabilities of all types, visible or invisible. Please circle the appropriate response to the right of each statement and respond to every statement. Do not write your name anywhere; your choice to participate is voluntary, and your responses will ALWAYS remain anonymous. The scale runs from never to all the time. Keep the pencil!

1. I think about my disability
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

2. Students with disabilities don’t receive as many opportunities as those without disabilities
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

3. Teachers view me as having a shortcoming
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

4. My friends think I’m different because of my disability
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

5. People with disabilities are treated differently
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

6. I think of myself as smart
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

7. Students with disabilities are not treated equally
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

8. Teachers view me positively
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

9. I do not have trouble making friends
   - never
   - occasionally
   - regularly
   - frequently
   - all the time

10. Society stereotypes people with disabilities like mine
    - never
    - occasionally
    - regularly
    - frequently
    - all the time

11. I feel frustrated about school
    - never
    - occasionally
    - regularly
    - frequently
    - all the time

12. Students with disabilities are successful
    - never
    - occasionally
    - regularly
    - frequently
    - all the time

13. I do poorly on tests in part
    - never
    - occasionally
    - regularly
    - frequently
    - all the time
<table>
<thead>
<tr>
<th>Question</th>
<th>Frequency Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>due to my disability</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>14. Students are understanding about disabilities</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>Please turn over and continue on the other side...</td>
<td></td>
</tr>
<tr>
<td>15. I get support from other students with disabilities</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>16. I feel good about myself</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>17. Students with disabilities are successful in the workplace</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>18. My grades are not as good as I would like</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>19. My disability causes obvious strains to relationships</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>20. I support other students with disabilities</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>21. I feel that I am treated fairly on campus</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>22. Students with disabilities need more support services and accommodations</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>23. I ask for accommodations</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>24. I talk to others about my disability</td>
<td>never occasionally regularly frequently all the time</td>
</tr>
<tr>
<td>25. Gender</td>
<td>Male                                Female</td>
</tr>
<tr>
<td>26. Age</td>
<td>20 or under                          Over 20</td>
</tr>
<tr>
<td>27. Disability</td>
<td>Invisible                            Visible</td>
</tr>
</tbody>
</table>

Thank you for completing this survey! Please return in the postpaid envelope provided, or leave with the survey administrator.
Vita

Jack Trammell was born in Berea, Kentucky on January 23, 1964. He completed his Bachelor of Arts with a major in political science at Grove City College in 1986. He received a Master's of Education in history at Virginia Commonwealth University in 1992. In 1994, he completed additional graduate work at the University of Virginia, earning teacher certification in special education. He worked as a special educator and history teacher for nine years in the Virginia public school system, prior to taking his current position in higher education and disability support. Jack also has written fiction and non-fiction works that have been widely published, and has taught for six years at the college and university level.