Barriers to the Participation of Historically Black Colleges and Universities in the Federal Disability and Rehabilitation Research and Development Enterprise:
The Researchers' Perspective

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Acknowledgements

Citation

The recommended citation for this report is: Moore, C. L., Johnson, J. E., Manyibe, E. O., Washington, A. L., Uchegbu, N., and Eugene-Cross, K. (2012). Barriers to the Participation of Historically Black Colleges and Universities in the Federal Disability and Rehabilitation Research and Development Enterprise: The Researchers' Perspective. Oklahoma City: Department of Rehabilitation Counseling and Disability Studies/Langston University.*

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Dr. Corey L. Moore holds the prestigious Delta Sigma Theta Sorority Inc., Distinguished Professor Endowed Chair of Rehabilitation Counseling and serves as Founding Chair of the Langston University Department of Rehabilitation Counseling and Disability Studies. He is a Certified Rehabilitation Counselor (CRC) with several years of experience in rehabilitation counseling. Dr. Moore holds a Bachelor of Arts in Political Science from the University of Georgia, a Master's in Rehabilitation Counseling from the University of Kentucky and his Doctorate in Rehabilitation Counselor Education and Research from Southern Illinois University-Carbondale. He has served as principal investigator/project director for thirteen (13) different U.S. Department of Education grants/cooperative agreements exceeding 9 million dollars. Prior to coming to Langston University, he was employed as a Research Assistant Professor (Research Scientist) at the University of Arkansas' Rehabilitation Research and Training Center for Persons who are Deaf and Hard-of-Hearing (RT-31). He has authored or co-authored over 40 peer reviewed research publications and monographs/technical reports and has conducted numerous national and state presentations on rehabilitation topics. Dr. Moore was the 2005 recipient of the National Association of Multicultural Rehabilitation Concerns (NAMRC) Bobbie Atkins Research Award. He was also a recipient of the 2009 Thurgood Marshall College Fund, Inc. Outstanding Leadership in Faculty Research Award, and the 2009 Oklahoma Rehabilitation Association's Hubert E. Byrd Professional of the Year Award. He currently serves as a member of the Board of Directors of the DaVinci Institute, Oklahoma's Creativity Think Tank. He served in the Georgia and Kentucky National Guard as a medical specialist (combat medic; E-4 rank) with mechanized/light infantry units from 1990 to 1996.

Contents

Abstract

This monograph reports on a study investigating barriers that prevent historically Black colleges and universities (HBCUs) from fully participating in the Federal disability and rehabilitation research and development (R&D) agenda. The findings are based on the experiences of HBCU disability researchers. The Delphi Technique, mixed-methods approach, was used to examine panelists' perceptions on the importance of contextual R&D barriers ensuing from policy and systems issues across 13 different categories. Findings indicated that the five most important barriers were heavy teaching loads, the lack of research mentors, HBCU administrative culture, heavy student advisement commitments, and Federal research entity expectations for HBCU proposal success. The authors discuss the Federal research entity expectation observation as a phenomenon than can be perhaps explained by what they coin as the *"Federal Research Entity Expectation and HBCU Investigator Scholarly Self-Efficacy Relational Theory"*. These findings provide information about what Federal research entity leaders and HBCU administrators can do to stimulate competitive disability and rehabilitation R&D participation across the HBCU community. Recommendations that can be considered for external and internal policy and systems modifications to address the current under-funding and under-participation of HBCUs as "grantees" across the Federal disability and rehabilitation R&D enterprise's investment portfolio [e.g., National Institute on Disability and Rehabilitation Research (NIDRR)] are presented.

Introduction

Institutions of higher education constitute one of the major pillars for international social, cultural and economic development. This has been especially true in the United States (U.S.), a country regarded as the current global leader and center of education. In carrying out their missions, these institutions continue to contribute to the efficacy of individuals and organizations across every province of society. Similar to other higher learning institutions in the U.S., historically Black colleges and universities (HBCUs) play an important role in national and international development. There are 105 HBCUs in the U.S., including public and private, two-year and four-year institutions, medical schools and community colleges (Avery, 2009). Many of these HBCUs have not been solely invested in the enterprise of transmitting knowledge, but also serve as conduits for the generation of new knowledge and the development of new scientific innovation and technology aimed at eradicating problems affecting our planet and its inhabitants. In addressing questions worthy of scientific inquiry, one factor setting these institutions apart from traditionally White institutions (TWIs) is the emphasis placed on faculty-student research collaborations. For instance, HBCU students have been found to be 1.5 times more likely than students at TWIs to participate in faculty members' research (U.S. Commission on Civil Rights, 2010).

Disability and rehabilitation research and development (R&D) are vital factors in exploring and addressing the employment, community participation, health and functioning, and assistive technology needs of people of color who have disabilities. Research activities can influence public policy affecting their employment outcomes, inform medical and clinical practice with evidence-based interventions, and contribute to a knowledge base for training and development of practitioners (Broussard, 2009; Schultz, Koch, & Kontosh, 2007). On the other hand, scientific and technological development can lead to new innovations and assistive technologies that address environmental and attitudinal barriers that impede people of color from living independently and fully participating in the community. Historically, Federal sponsorship of R&D activities has not been inclusive of HBCUs, and instead has been concentrated in a very small number of institutions of higher education in the best position to take advantage of the funding explosion (Ponder, 2001). However, the participation of researchers from diverse ethnic and racial backgrounds, such as those at HBCUs, is critical to addressing the rehabilitation needs of people of color (Cargill, 2009; Epps & Guidry, 2009). These investigators bring a unique cultural perspective to multicultural research (Bernal & Ortiz-Torres, 2009; Cargill, 2009; Yanagihara, Chang, & Emst, 2009). Current disability public policy provides clear and convincing credence to the value of HBCUs in articulating the rehabilitation needs of African Americans with disabilities via research. Nonetheless, barriers that impede these researchers' full participation in disability and rehabilitation R&D continue to exist.

Considerable attention has been paid to understanding intrinsic systems issues affecting HBCU participation in disability and rehabilitation R&D. Research findings have documented several of these internal barriers to include, but not limited to: (a) heavy teaching loads, (b) weak infrastructure, (c) little commitment or interest by the administration in R&D, (d) value of teaching supersedes that of research and development, (e) no incentives for conducting research, (f) faculty with little experience in grantsmanship, (g) no research role models, and (h) faculty with little or no research experience. These noted internal impediments have been found to be related in part to a lack of resources and infrastructure, and administrative issues that are pertinent to developing a comprehensive research agenda (Baker & Velez, 1996; Epps & Guidry, 2009; Guidry, 2002; Kundu & Dutta, 2000; Moore et al., 2000).

Although internal R&D impediments have been investigated, scant attention has been paid to examining extrinsic HBCU research participation barriers ensuing from U.S. Department of Education auxiliary entities [e.g., National Institute on Disability and Rehabilitation (NIDRR) and the Rehabilitation Services Administration (RSA)], and National Institutes of Health (NIH) policy and systems issues. The current study attempts to fill this apparent research gap by exploring HBCU disability researchers' perceptions on contextual R&D participation barriers.

Section 21 Legislative Mandate Context

Section 21 of the 1992 Rehabilitation Act Amendments documented patterns of inequitable treatment for persons of color (e.g., African Americans) in all junctures of the vocational rehabilitation (VR) process. Congress found that: (a) persons of color possessed higher rates of disability, (b) they were underrepresented in the public vocational rehabilitation system, and (c) they were less likely to achieve positive employment outcomes when compared to Whites (Lewis et al., 2007). Section 21 provided a "legislative mandate" to correct these VR system disparities by enhancing outreach to the African American community, recruiting more African Americans into the profession, and retaining institutions with high African American student enrollment for programmatic offerings and financial support" (Brown II, Alston, & Moore, 2000, p. 336). In addition, Section 21 grants NIDRR's Director and RSA's Commissioner the authority to set aside funds that could be awarded to HBCUs, other minority serving institutions and Native American tribes to improve services provided to minority consumers (Kundu & Dutta, 2000).

In response to Section 21, U.S. Department of Education auxiliary entities including NIDRR and RSA established capacity building programs aimed at improving services to persons of color via training, research and outreach. According to *NIDRR's Long-Range Plan for Fiscal Years 2005-2009*, its "Minority Development Program focused on research capacity building for minority entities such as HBCUs, and institutions serving primarily Hispanic, Asian, and American Indian

students" (Federal Register, February 15, 2006, p. 8,193). NIDRR's proposed Long-Range Plan for Fiscal Years 2010-2014 commits to addressing Goal 3 via Strategy 3.1.1. This strategy seeks to "enhance the capacity of minority entities (e.g., HBCUs) and Indian Tribes to train disability researchers and to conduct high-quality disability and rehabilitation research and development" (Federal Register, January 15, 2009, p. 2,567). RSA developed and currently funds its Capacity Building for Traditionally Underserved Populations Program, which financially assists projects that provide training, research, technical assistance, or related activities to improve services to individuals with disabilities from minority backgrounds (Federal Register, May 31, 2005, p. 30,935).

Although NIDRR and RSA have carried out Section 21 efforts for over the past 15 years, the jury remains out as to whether their work has resulted in meaningful change. For instance, NIDRR's program has achieved minimal impact on building the R&D capacity of the HBCU community as evidenced by the relatively low number of HBCU "grantees". Based on a cursory analysis of NIDRR's investment portfolio on this specific criterion (i.e., number of HBCUs funded as grantees), a very disturbing trend emerges. As reflected in Table 1, HBCUs access disparate levels of NIDRR research dollar investments and are clearly under-funded and under-represented as "grantees". More specific, of the 229 NIDRR "grantees", across seven different programs in fiscal year (FY) 2010, none (n = 0, or 0%) were HBCUs. While NIDRR invested a total budget of $103,612,858 in these seven select programs, none of these research dollars ($0) were awarded to HBCUs as "grantees" to carry out R&D or research capacity building training.

Table 1 data documents the lack of participation of HBCUs as "grantees" across NIDRR's investment portfolio, and may signal this entity's apparent minimal impact on extensively addressing Section 21 of the Rehabilitation Act Amendments. These results raise a serious concern and relevant question: Is the under-funding and under-representation of HBCUs as "grantees" in the NIDRR investment portfolio a "discriminatory equal access" or "research capacity building" issue? Given the length of time that NIDRR's efforts have been carried out, some within the HBCU community of scholars have contended that it is an issue of the former rather than the latter. Still, others note the lack of competitive research capacity at HBCUs as the primary contributor to their limited participation.

RSA capacity building program impacts on improving VR access and successful return to work outcome rates among African American VR consumers appear to be minimal as well. Existing data indicate that African American VR access rates (Rosenthal, Ferrin, Wilson, & Frain, 2005) and successful return to work rates (i.e., Moore et al., 2009) were below their White counterparts post Section 21 capacity building efforts. These findings raise another critical question: Has

Table 1: U.S. Department of Education Grant Awards Data on NIDRR Research and Development (R&D) Investment in Grant Project Funding: Non-HBCUs vs. HBCUs (FY 2010, Grantee Status Only)

Programs

Advanced Rehabilitation Research Training (ARRT)- 84.133P		
	# Current Grantees	**NIDRR's FY 2010 Investments**
Non-HBCUs	16	$2,390,872
HBCUs	0	$0
Subtotal	**16**	**$2,390,872**
Disability Rehabilitation Research Projects (DRRP)- 84.133A		
Non-HBCUs	61	$38,092,624
HBCUs	0	0
Subtotal	**61**	**$38,092,624**
Field Initiated Projects (FIP)- 84.133G		
Non-HBCUs	66	$13,764,537
HBCUs	0	0
Subtotal	**66**	**$13,764,537**
Rehabilitation Research Engineering Centers (RRECs)- 84.133E		
Non-HBCUs	19	$17,403,624
HBCUs	0	0
Subtotal	**19**	**$17,403,624**
Rehabilitation Research and Training Centers (RRTCs)- 84.133B		
Non-HBCUs	28	$21,839,947
HBCUs	0	0
Subtotal	**28**	**$21,839,947**
Small Business Innovation Research (SBIR) Program- 84.133S		
Non-HBCUs	25	$3,642,937
HBCUs	0	0
Subtotal	**25**	**$3,642,937**
Spinal Cord Injury Model System- 84.133N		
Non-HBCUs	14	$6,478,317
HBCUs	0	0
Subtotal	**14**	**$6,478,317**
Total	**229**	**$103,612,858**

Note: HBCU= Historically Black Colleges and Universities;
Data Source: U.S. Department of Education Grant Award Database- Awards through 2/6/2011

RSA effectively addressed the Section 21 Mandate of the Rehabilitation Act Amendments? In response to these data, researchers (Moore et al., 2009) have called for an expansion in the number of competitive applied research projects, research capacity building training programs (i.e., post-doctoral fellowship programs) and graduate level pre-service disability training programs within the HBCU community available to partner with Federal research entities to more extensively address Section 21.

Shrinking Budgets and Endowments

Higher education in the U.S. has been experiencing financial constraints for more than a decade (Association of Governing Boards of Universities and Colleges, 2010; Clark, 2009; Dennis, 2006). Unfortunately, HBCUs are often the hardest hit when the country experiences economic decline. The current economy's impact on HBCU operations has not gone overlooked as many of the nation's HBCU Chief Executive Officers (CEOs) have developed new concepts and employed innovative strategies to help generate revenue and offset financial woes. In her 2010 State of the University Address, for example, Langston University President JoAnn W. Haysbert remarked on the current financial situation faced by many HBCUs. She emphasized the need for faculty members to become more passionate about their scholarship (Haysbert, 2010). She proceeded to provide the following observation:

> At a time when this nation continues to celebrate its first African-American President while facing one of the worst economic downturns in history, historically Black colleges are being challenged to overhaul our operations and image as we face outside pressures for more accountability. And while the effects of the nation's fiscal woes have fallen largely on all colleges, the factors forcing change on historically Black colleges have reached a tipping point over the past two years, causing us to seriously consider how we will survive in a changing higher education landscape. But the challenge is not in merely surviving; as U.S. Secretary of Education Arne Duncan said, "We must not only survive, we must strive."

Financial difficulties, however, are not new phenomena for HBCUs (Avery, 2009; Brown II, Alston, & Moore, 2000; Clark, 2009). Many HBCUs, at one time or another, have either operated at near or outright deficit. Although successive U.S. presidents since the late 1960s have tried to allocate special funding to HBCUs through executive orders, often these funds are too little to make a significant difference in their financial status. Such budgetary shortfalls have led to faculty shortages and overworked faculty, due to resulting excessive teaching loads (Clark, 2009). Consequently, many faculty members are unable to find adequate time to effectively engage in scholarly activities that attract competitive Federal R&D contracts. These

fiscal challenges have been attributed to factors such as: (1) skewed historical allocation of financial resources in higher education that tend to favor TWIs (Evans, Evans, & Evans, 2002), (2) prevailing economic crisis and rising costs, (3) dwindling revenues at the state and national levels that have put added pressures on governments to rethink their spending priorities, (4) fluctuating student enrollment, and (5) little or no endowments, gifts, or sources of grants (Avery, 2009; Clark, 2009; Diane, 2007). Moreover, since some HBCUs have historically placed little emphasis on research, they have been more often the recipients of "token" research dollars, which does not count as a serious source of revenue.

In light of dwindling resources available to publicly and privately funded HBCUs, it has become more imperative for these institutions to secure additional external revenue. Historically excluded from Federally sponsored research money, a growing number of HBCUs are increasingly competing with TWIs for awards as other sources become scarce. The generation of external dollars has become critical to the very survival of HBCUs as traditional means of support (i.e., state appropriations and endowments) continue to dwindle in the current economy. As stated by the President of the National Sponsored Program Administrators Alliance of HBCUs (Mr. David Camps), "If we are to move forward, the money is not in getting state dollars, these dollars are getting cut…the money is in research" (Coleman & Matthews, 2011, p.14,582). There is an urgent need for HBCUs to secure additional competitive Federal R&D contracts.

Contextual Research and Development Barriers

Barriers stemming from external Federal research entity (e.g., U.S. Department of Education-NIDRR) policy and systems issues coupled with HBCU internal organizational issues may continue to mitigate attempts to enhance HBCUs equal access to research dollars and to participate fully in competitive disability and rehabilitation R&D. The concomitant effects of these external systems issues coupled with internal university systems issues place HBCU disability researchers at an even greater disadvantage and can be seen as a double-whammy. The remainder of this section will discuss briefly literature on some of these R&D obstacles to HBCU participation.

External Factors

In addition to internal obstacles, extrinsic barriers may limit HBCU disability and rehabilitation R&D participation, and moreover their involvement in extensively and effectively addressing the Section 21 mandate. To date, little focus has been paid to external U.S. Department of Education policy and systems issues that may discourage and impede HBCU faculty scholars from engaging fully in disability and rehabilitation research. Researchers at HBCUs have done

little to evaluate barriers external to their institutions' systems and the impact of such issues on their disability and rehabilitation R&D participation. Consequently, there exist a very limited understanding of these extrinsic barriers within the context of Federal research entities' policy and systems, and so we have had little opportunity to address and correct such issues.

Currently, little data is available on the impact of U.S. Department of Education-NIDRR systems on HBCU disability and rehabilitation R&D participation. As such, we are unable to adequately surmise if the woeful number of HBCUs participating as "grantee" in NIDRR's investment portfolio is a result of extrinsic system issues such as, but not limited to: (a) peer review panel selection processes, (b) the actual peer review process, (c) funding slate award selection process, (d) notice of final "absolute priorities" requiring HBCUs to collaborate with TWIs, or (e) NIDRR sponsored research capacity training that has failed to incorporate a "Research-Team Mentorship" model that assigns the HBCU researcher a meaningful role across the total research paradigm. NIDRR's unarticulated expectation of mentorship models may have done little to help HBCU disability researchers develop the requisite skills sets needed to become competent investigators and significant contributors to the knowledge base.

Internal Obstacles

Several issues inherent within HBCU systems have been reported as obstacles to their scholars fully engaging in disability and rehabilitation R&D. Perhaps the most prominent of these issues involves heavy teaching commitments. The academic culture of HBCUs supports teaching over research (Kundu & Dutta, 2000), where oftentimes research foci are not included in their missions (Hopkins, Looby, & Thornton, 2002).   Oftentimes, heavy teaching loads at HBCUs preclude release time for faculty members to participate in collaborative and/or non-collaborative research. They are often required to maintain large teaching loads in undergraduate and graduate studies (Epps & Guidry, 2009; Yanagihara et al., 2009).   Those teaching undergraduate classes can carry teaching loads of 16-18 credit hours per semester while graduate faculty members regularly teach 9-12 credit hours per semester (Kundu & Dutta, 2000).   Faculty members spend additional time preparing lectures, group and individual activities and grading assignments, etc. Kundu and Dutta (2000) also noted that the class sizes are often exceptionally large. Large student enrollments consequently require faculty to commit additional time to advising students (Kundu & Dutta, 2000; Zea & Belgrave, 2009), while having less time to devote to research productivity. Thus, heavy teaching and advisement responsibilities result in limited available time for faculty members to engage in research and grantsmanship activities.

One other noted research barrier is heavy service commitments. HBCU faculty members on tenure track are generally expected to engage in service on university, professional, and

community committees or boards. The requirement to serve on various committees to receive promotion and tenure reduces the amount of time available for them to actually participate in research and writing grant proposals (Kundu & Dutta, 2000). In addition, excessive administrative duties assigned to faculty members have been identified as a barrier to research productivity. Epps and Guidry (2009) noted that placing HBCU faculty members in inflexible administrative positions (i.e., program coordinator or department chair) reduces the amount of time available for research and grantsmanship activities.

Similarly, HBCU administrative culture oftentimes limits faculty members' research productivity. First, the administrative culture sometimes places a higher premium on teaching in contrast to research. Glover, Xirasagar, Jeon, and Pastides (2009) provided a notable example of this value conflict. The authors reported on an HBCU and TWI research project collaboration where several of the HBCUs eventually withdrew from the collaboration. The withdrawals occurred because the HBCUs' presidents indicated that the projects' research mission was not aligned with their institutions' teaching mission. Second, administrative support that fosters an environment for research and grantsmanship is sometimes inadequate (Kundu & Dutta, 2000).   For instance, the administrative culture does not always facilitate opportunities for faculty members to reduce teaching duties and increase their time available to participate in research and grant writing activities (Epps & Guidry, 2009).   Third, faculty members may receive cursory rather than commendable recognition upon securing a grant that reinforces continued research participation (Kundu & Dutta, 2000).   Fourth, faculty members may not receive financial incentives such as salary increase when grants are funded (Epps & Guidry, 2009).   As such, rigid and bureaucratic administrative organizational structures sometimes discourages faculty members from research participation and reduces the amount of time they are willing to devote to scholarly activities due to lack of support.

The lack of adequate resources to support R&D at HBCUs has been found to be another key barrier. This resource issue is oftentimes due to inadequate funding for research (Epps & Guidry, 2009; Harley et al., 2000). Bernal & Ortiz-Torres (2009) noted that in 2002, only 0.8% of the total applications received by the National Institutes of Health (NIH) were awarded to African Americans.   In addition, grant project budgets that do not allocate sufficient resources for R&D activities hinder faculty member participation (Hopkins et al., 2002).   Additional resource issues include lack of up-to-date statistical software, technical computer assistance, and research or graduate assistants (Hopkins et al., 2002; Kundu & Dutta, 2000).   Epps and Guidry (2009) also pointed out that lack of access to established and extensive databases hinders HBCU faculty members' engagement in substantial research.   Similarly, the lack of partnerships/collaborations

between TWIs with a major research focus and HBCUs with a major teaching focus limit HBCUs' access to additional technical and financial resources (Epps & Guidry, 2009; Harley, 2000).

The inadequate supply of seasoned research mentors available to work with HBCU junior faculty members serves as another research participation barrier (Yanagihara et al., 2009).   Developing research studies and grant proposals can be challenging for junior faculty (Cargill, 2009).   When there is a shortage of support from senior faculty or higher-level research professionals, the process can be more challenging (Epps & Guidry, 2009).   Epps and Guidry presented two key assertions on the matter of research mentorship implications. First, they asserted that the lack of HBCU research mentors minimizes opportunities for junior faculty members to collaborate with senior faculty members and researchers who have an understanding of the barriers faced by junior faculty.   Second, they noted that junior faculty members and scholars are hindered from participating in research and grant writing activities due to lack of knowledge, experience and support that can be provided by mentors.   Further, the limited supply of research mentors from culturally diverse backgrounds available to serve as role models does not always empower faculty scholars to engage in research and grantsmanship (Cargill, 2009; Zea & Belgrave, 2009).

Finally, inadequate sponsored programs office support is an obstacle to faculty members successfully securing research, development and training dollars. As noted by Epps and Guidry (2009), grant proposal requirements frequently change and faculty members often lack the ability to keep up with the changing process.   HBCU faculty members oftentimes are not aware of and do not have access to the various sources of information relevant to applying for and receiving grants. HBCU sponsored programs offices that do not proactively facilitate grantsmanship development via trainings, informing the faculty cadre about grant opportunities, etc., are not adequately supporting their institution's advancement. This office is critical to building faculty members' research and grantsmanship capacity.

Overview of the Research
Purpose of the Research and Research Questions

Previous research has investigated internal HBCU systems issues that impede their scholars' R&D participation. However, few independent, external non-Federally funded comprehensive studies have systematically investigated HBCU researchers' perceptions on the importance of external R&D barriers ensuing from Federal research entity (i.e., U.S. Department of Education) policy and systems issues. Consequently, research gaps continue to exist in the current state-of-the-science on improving HBCUs disability and rehabilitation R&D participation- *while we know a fair amount about internal barriers, there is less information available regarding*

Federal research entities' policy and systems issues that discourage and limit HBCU researchers' participation. This study represents an initial attempt to fill in these gaps as to what is known about these policy and systems issues that have resulted in HBCUs' marginal R&D participation as "grantee". *The purpose of this study was to identify barriers that prevent HBCUs from fully participating in the Federal disability and rehabilitation R&D enterprise, and to gain a better understanding of the issues that must be addressed to stimulate HBCU competitive R&D as well as systems change across Federal research entities and the HBCU community.*

A Delphi study approach was used to investigate panel members' perceptions on barriers ensuing from: teaching commitments, lack of research mentors, HBCU administrative culture, student advisement commitments, Federal research entity expectations for HBCU proposal success, university service commitments, administrative duties, sponsored programs office, Federal research entity grant review methods, facilities and human resources, research capacity building training, research collaborations with TWIs, and access to study participants. The following research questions were addressed:

- What external research entity policy and systems issues hinder HBCU researchers from participating fully in the Federal disability and rehabilitation R&D enterprise?
- What internal HBCU policy and systems issues impede HBCU researchers from participating optimally in the Federal disability and rehabilitation R&D enterprise?

The findings of this study provide information that can be used to guide Federal research entities' [e.g., U.S. Department of Education's NIDRR & RSA)] and HBCUs' policy and systems so that HBCU researchers' R&D capacity and participation can increase.

Definitions of Contextual Systems Terminology used in the Research

For the purposes of this study, the term research barrier is used to describe contextual policy and system issues (i.e., internal and external) that impede HBCU researchers from fully participating in the Federal disability and rehabilitation R&D enterprise. Under each internal or external system, there are select entities, each having a specific organizational structure and mission statement.

Historically Black Colleges and Universities

HBCUs are defined as institutions of higher education that were established before 1964 with the intention of serving the Black community (White House Initiative on HBCUs, 2008). These institutions differ in terms of size, classification, and mission and consequently do not constitute a single monolith. For this investigation's purpose, the Federal disability and rehabilitation research enterprise is composed of entities that sponsor related research, training, or service activities via grants to an organization and/or a person (i.e., NIDRR, RSA & NIH).

HBCUs that operate disability and vocational rehabilitation research and/or training programs were targeted for this research project. The following descriptions emphasize the missions of the external Federal research entities.

Federal Disability and Rehabilitation Research Enterprise

National Institute on Disability and Rehabilitation Research (NIDRR): NIDRR is the flagship for the Federal disability research agenda and is one of three components of the Office of Special Education and Rehabilitation Services (OSERS) at the U.S. Department of Education. The mission of NIDRR is to generate new knowledge and promote its effective use to improve the abilities of people with disabilities to perform activities of their choice in the community, and also to expand society's capacity to provide full opportunities and accommodations for its citizens with disabilities.

Rehabilitation Services Administration (RSA): The mission of RSA is to provide leadership and resources to assist state and other agencies in providing vocational rehabilitation, independent living and other services to individuals with disabilities to maximize their employment, independence and integration into the community and the competitive labor market. RSA is positioned under the Office of Special Education and Rehabilitation Services (OSERS) at the U.S. Department of Education.

National Institutes of Health (NIH): NIH is a part of the U.S. Department of Health and Human Services, and is the nation's medical research agency. NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability. NIH is the largest source of funding for medical research in the world, creating hundreds of thousands of high-quality jobs by funding thousands of scientists in universities and research institutions in every state across America and around the globe.

Use of Terminology

As the findings of this research are presented, the use of a particular system (i.e., NIDRR) will be clearly differentiated and the appropriate terminology will be used. In addition, it is important to note the difference between "grantee" and 'sub-contractor" statuses. The term "grantee" refers to the organization that applies for the project and is granted funding to carry out proposed activities. The term "sub-contractor" refers to the entity that supports the "grantee's" efforts by performing a specific function(s) in collaboration with the "grantee" that is pertinent to successfully carrying out proposed activities. The "sub-contractor" is generally provided monies by the "grantee" from the project to carry out these specified activities.

Methodology

This research was conducted using a mixed-methods approach (qualitative and quantitative analysis) in an effort to provide a robust and detailed picture of panelists' perspectives (Creswell, Gutmann, Hanson, & Plano-Clark, 2003).   This sequential exploratory research model is compatible with the study's purposes and provides a deeper understanding of some issues negatively impacting HBCU disability and rehabilitation R&D participation and answers questions that policy makers need answered.   Specifically, the research method was used to identify panelists' perspectives on barriers to R&D participation.   This approach enabled the researchers to better understand pertinent extrinsic and intrinsic contextual factors that limit HBCU investigators' participation.

Sample
Recruitment

The sample of panelists was recruited through the National Council on Rehabilitation Education's (NCRE) 2008-2009 membership directory and the World Wide Web.   We googled researchers' contact information via the World Wide Web when program information was non-existent in the NCRE membership directory.   This list was used as a source for identifying HBCU disability researchers who could nominate peers to serve on the Delphi panel.   These individuals were contacted and asked to nominate peers to serve as a Delphi panelist.

Description of Participants

Sixteen (16) HBCU disability educator researchers participated as Delphi panelists. Approximately 63% or 10 participants had 9/10 month faculty appointments while the residual 37% or 6 had 12 month appointments.   The average reported annual salary for 12 month faculty was $76,600 with a range from the low of $54,000 to the high of $98,000.   Nine/ten month faculty reported an average annual salary of $64,194 ranging from $50,000 to $86,000 per year, excluding supplemental summer income.   Nine/ten month contracted Assistant Professors, Associate Professors, and Professors reported an average annual salary of $53,408, $67,950 and $74,500, respectively.   Please see Figure 1 for detailed demographic information.

Data Collection
Delphi Technique

The Delphi method was originally developed at the Research and Development Corporation (RAND) in the 1950s to forecast technological innovations and social and economic impact of technological change (Brown, 1968; Rice, 2009).   Since that time, the Delphi method has

Figure 1. Participant Demographics

Gender
- Male (n=7)
- Female(n=9)

Age
- Age 37-44 (n=10)
- Age 45-54 (n=2)
- Age 55-64 (n=4)

Racial/Ethnic Background
- Caucasian (n=2)
- African American (n=14)

Disability Status
- Disability (n=2)
- No Disability (n=14)

Academic Rank
- Assistant Professor (n=4)
- Associate Professor (n=10)
- Full Professor (n=2)

Administrative Rank
- No Administrative Rank (n=8)
- RCE Coordinator (n=5)
- Department Chair (n=3)
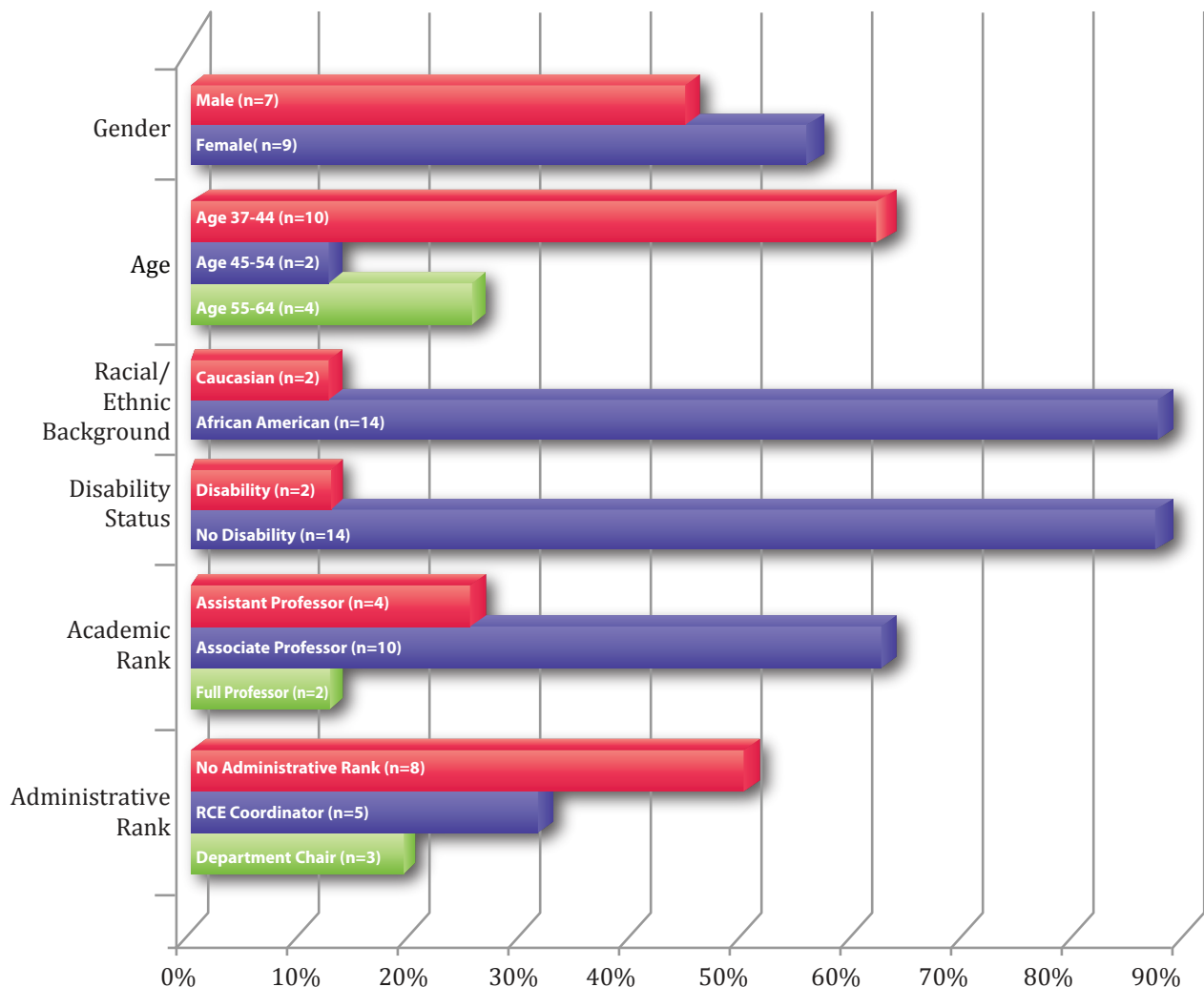
been used in business (Kaynak, Bloom, & Leibold, 1994; Keeney, Hasson, & McKenna, 2006), education (Keeney et al.: Volk, 1993) and health research (Alexander & Kroposki, 1999; Keeney et al.), and has been used to formulate governmental and corporate policies (Park et al., 2006). The Delphi technique's popularity is centered on the fact that it allows the anonymous inclusion of a large number of individuals across diverse locations and expertise and avoids the situation where a specific expert might dominate the consensus process (Jairath & Weinstein, 1994). Anonymity allows participants to express or change their opinion without embarrassment and prevents interpersonal biases from interfering with the evaluation of presented ideas (Park et al. 2006).

The Delphi procedure consists of a series of steps taken to elicit and refine perspectives of a group of people who are either experts in the area of focus or representative of the target

population (Park et al., 2006). Three different Delphi methods are discussed in the extant literature to include classical, decision making and policy Delphi (Franklin & Hart, 2007). The current study employed the policy Delphi method. As noted by Murry (1992), the purpose of the policy Delphi is to collect a "rich, meaty, stimulating body of opinion" (p. 18) to inform sound decision-making. The primary objective of this study was to develop a list of agreed upon key research barriers that prevent HBCU researchers from participating optimally in disability and rehabilitation R&D. Achieving this objective requires the gathering of ideas from the target population through an iterative consensus making process. As such, the above mentioned characteristics of the Delphi model make it an ideal method for this study. The Delphi approach can provide data that might influence those who are in a position to determine policy that impacts HBCU researchers' R&D participation.

Procedures

A peer nomination process was used to recruit HBCU disability researchers to participate as panelists in the Delphi study. The initial solicitation to identify nominees to participate in the study was conducted by mail and included a cover letter and peer nomination form. Peer nomination forms were mailed to 35 disability educator researchers at 12 different HBCUs with Council on Rehabilitation Education (CORE) accredited master's level rehabilitation counselor education (RCE) programs. The respondents to the solicitation to identify nominees were asked to nominate a minimum of two professional peers to participate as members of the Delphi panel. Solicitation respondents were provided the following criteria for identification of nominees to participate in the research study:

1. Nominees must be a disability educator researcher/faculty member at a historically Black college or university (HBCU) with a minimum of five years of experience in a master's level rehabilitation counseling program.

Rationale: Disability educator researchers who have been involved in a disability and rehabilitation academic program for this period of time were assumed to have the requisite experience to make sound recommendations in regard to addressing barriers to disability and rehabilitation research participation.

2. Nominees must have experience using electronic mail in order to send and receive messages; experience printing from electronic mail; and have the ability to download and upload computer data files.

An initial listing of all nominees was generated and refined by the research team to eliminate duplications. Next, a purposive sample of potential panelists representing 12 different HBCUs was identified for subsequent solicitation for participation in the study. A total of 22 nominations were received and of these, 4 nominees received two nominations, resulting in 18 unique nominations. A letter explaining this study, a consent form and a service contract were sent

by U.S. mail to all 18 nominated participants. Of these, 16 nominees representing 10 different HBCUs signed the consent form and service contract agreeing to participate as a Delphi Panelist. Each participant completing a service contract was paid a $500 honorarium for participation.

The Delphi study process involved three rounds of surveys. Although personal information was obtained in order to identify respondent participation, researchers could not tie back personal information to individual participant responses. Consequently, participant responses were guaranteed complete anonymity. This approach does make it difficult to track each participant's feedback over the feedback rounds. However, the anonymity prevents unintended influences on the Delphi study researchers who are also in the HBCU disability and research community. This privacy was achieved by using the psychdata.com on-line survey website where participants could anonymously respond to the Delphi survey.

Round One: In the first round, participants were asked to list research barriers/issues under select categories. These category items were developed and based upon considerations, experience and available data/literature regarding barriers to HBCU disability and rehabilitation R&D participation. Initial correspondence to include a letter of request for participation, and an introduction and description to the study was e-mailed and mailed via U.S. Postal Service to each of the 16 panelists. Questions about participants' demographics and research productivity were included in the survey. Panelists were asked to provide open-ended input to identify their perceptions on barriers to participating in research and grantsmanship in thirteen (13) specified categories and one (1) category for miscellaneous comments. The time window for this round was three weeks. In this first round, 16 of 16 panelists (100%) contributed their perceptions, yielding a list of 172 total statements across all categories.

Coding: Upon receipt of the first round input, we analyzed the content of the responses within each category for emerging issues. As shown in Table 2, similar or closely related issues in the list were coded and consolidated and a summary statement or item was written for each issue identified; miscellaneous items from category 14 were determined to fall within the other 13 categories and were re-categorized accordingly. The principal investigator (PI) conducted a peer-check using two research team members to cross-check categorization and coding of statements. Multiple discussions eventually led to 100% agreement of the final set of issues. This process resulted in 44 issues. It should be noted that only 1 theme emerged for category 13 (Federal Research Entity Expectations for HBCU Proposal Success), and thus respondents were asked to rate and not rank the corresponding summary statement.

Round Two: In the second round, we provided the same 16 panelists with the 44 issues and

TABLE 2: NUMBER OF ROUND 1 RESPONSES BY CATEGORY

Category	All Statements	Consolidated Statements
1. Teaching Commitments	24	4
2. University Service Commitments	15	4
3. Student Advisement Commitments	17	3
4. Administrative Duties	10	3
5. Sponsored Programs Office	8	4
6. HBCU Administrative Culture	11	4
7. Facilities (e.g., technology) and Human Resources	21	6
8. Research Mentors	20	3
9. Access to Study Participants/Extant Databases	6	3
10. Research Collaborations with Traditionally White Institutions	13	3
11. Federal Research Entity Grant Review Methods (e.g., NIDDRR/RSA/NIH)	15	3
12. Research Capacity Building Training	6	3
13. Federal Research Entity Expectations for HBCU Proposal Success	6	1
Total	**172**	**44**

asked them to rank and rate them by category and by items within category. Panelists rank ordered the categories and items within categories in descending order. That is, the first choice was listed as rank one and the nth choice as rank n. Participants rated the categories and items within categories in terms of its importance. For importance, we used a 5-point Likert type interval scale with 1 being the least important and 5 being the most important; response options were 5 = "Very Important", 4 = "Important", 3 = "Moderately Important", 2 = "Somewhat Important", and 1 = "Not Important". A total of 16 panelists participated in this round.

Round Three: In the third round, we provided the panelists (n = 16) with the same 44 issues presented to them in Round Two as well as the corresponding ranking and average rating for importance for the panel's responses. They were asked to again rank and rate items using the same interval scale used in Round Two given the average response of the panel by category and by items within category. The 13 different overall categories/themes were ranked by assigning "rank points" to each item as follows:

Rank 1 = 13 points	Rank 8 = 6 points
Rank 2 = 12 points	Rank 9 = 5 points
Rank 3 = 11 points	Rank 10 = 4 points

Rank 4 = 10 points	Rank 11 = 3 points
Rank 5 = 9 points	Rank 12 = 2 points
Rank 6 = 8 points	Rank 13 = 1 point
Rank 7 = 7 points	

The top ranked items in each category/theme were selected by assigning "rank points" to each item as follows: Rank 1 = 6 points, Rank 2 = 5 points, Rank 3 = 4 points, Rank 4 = 3, Rank 5 = 2, and Rank 6 = 1 points. The rank points earned by each item were summed to compute the "sigma rank points" or ∑RankPoint score. Based on their ∑RankPoint scores, the items in each category were ranked from high to low and were assigned item numbers corresponding to the rankings of their scores. Thus, item number 1 became the item with the highest ∑RankPoint score and the highest rank order (#1) in terms of importance. Also calculated was a total of the category's rankings (∑Rank) and its overall group ranking based on this total. Panelists were also provided an opportunity to comment on items during the Round Three iteration of the study. Two successive rounds of rating and ranking were necessary to achieve a final consensus of those R&D barriers that panelists perceived as most detrimental to their optimal participation.

Data Analysis

Final data analysis after Round Three for themes and sub-themes was completed through mean ratings, ∑Rank scores, and rank ordering. ∑Rank and ∑RankPoint scores provided the clearest indicator of rankings both in the category/theme analysis and the analysis of items/sub-themes within categories/themes. In addition, we generated standard deviation scores to determine consensus. An important aspect of a Delphi study is the degree of panelists convergence or consensus on presented items. Empirically, consensus among Delphi participants can be determined by measuring the variances in responses; the lower a standard deviation score, the higher the consensus among panelists (Gay, Mills & Airasian, 2006). Thus, a perfect consensus on an issue would be a standard deviation of zero (Park et al., 2006). The desktop version of the Statistical Package for the Social Sciences (SPSS) Windows, version 16.0 procedures were used in these calculations.

Findings

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of themes and sub-themes. To test the consensus level, we compared the standard deviation scores of each barrier's importance at Round Two with their corresponding standard deviations in Round Three. The last column in Table 3 shows that nearly half of standard deviation scores (46%) of importance ratings in Round Three were lower than such values in Round Two. Moreover, the overwhelming majority of sub-themes reflected in Tables 4 through 16 had Round Three

standard deviation scores that were lower than Round Two values. The success of a consensus making process can be measured by a reduction in standard deviation values throughout the process (Park et al., 2006). Thus, standard deviation score reductions reflected in Round Three for a majority of sub-themes indicates that panelists' consensus on importance for many issues improved over time, and that the study was able to achieve a greater consensus.

The 16 panelists clearly perceived the five most important R&D participation barriers as heavy teaching loads, the lack of research mentors, HBCU administrative culture, heavy student advisement commitments, and Federal research entity expectations for HBCU proposal success. The ∑RankPoint score totals indicate that panelists perceived these issues to be the most important obstacles of all 13 categories. This suggests that panelists were in clear agreement about the importance of each of these issues as barriers to R&D participation. However, it is important to note that the issue concerning Federal research entity expectations for HBCU proposal success, which was ranked number 5, had a higher mean rating of importance than the issue ranked number 4, which related to student advisement commitments. This result provides credence to the Federal research entity expectations for HBCU proposal success issue as a close rival to the student advisement commitment issue as the number 4 barrier. With the exception of the student advisement commitment issue, the other categories ranked as the top five issues reflected the highest rated issues with a 4.06 or higher score for mean rating for importance.

TABLE 3
ROUND 3 RANKING OF THEMES/BARRIERS/ISSUES BY IMPORTANCE

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Teaching Commitments	198	4.75	.98	186	4.56	.62	-0.19	-0.36
2) Research Mentors	141	4.56	.62	151	4.31	.70	-0.25	0.08
3) HBCU Administrative Culture	112	4.31	.79	145	4.38	.71	0.07	-0.08
4) Student Advisement Commitments	133	4.50	.63	139	3.88	.88	-0.62	0.25
5) Federal Research Entity Expectations for HBCU Proposal Success	118	4.56	.62	119	4.06	.99	-0.50	0.37
6) University Service Commitments	117	4.19	.98	114	3.81	.75	-0.38	-0.23
7) Administrative Duties	94	3.88	1.08	106	3.88	1.02	0.00	-0.06
8) Sponsored Programs Office	89	4.13	1.02	94	3.94	.68	-0.19	-0.34

Note: Ranking of issues reflect Round 3 data analysis results- ▮ = Round 3 data.

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
9) Federal Research Entity Grant Review Methods	107	4.19	.83	92	3.88	1.02	-0.31	0.19
10) Facilities and Human Resources	98	4.25	.93	89	4.06	.99	-0.19	0.06
11) Research Capacity Building Training	101	4.38	.80	88	4.19	.91	-0.19	0.11
12) Research Collaboration with Traditionally White Institutions	83	3.94	1.06	83	3.56	1.09	-0.38	0.03
13) Access to Study Participants	65	4.06	1.06	50	3.56	.81	-0.50	-0.25

Note: Ranking of issues reflect Round 3 data analysis results-   = Round 3 data.

Sub-theme: Teaching Commitments

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Teaching Commitment category. In issue 1, panelists addressed the need for release time from teaching commitments in order to devote additional time to research activities. As shown in Table 4, this issue was ranked as most important, number 1, and received a mean rating of importance of 4.94, the highest rating in this category. One panelist stated:

> The teaching expectations at HBCUs typically exceed those at TWIs. Faculty are expected to teach 3-4 courses at the graduate level which can hinder any research efforts. Also, one must consider the time required to prepare for these courses. Many HBCUs want to require faculty to conduct research, but they often fail to provide release time to do so.

The second most important issue concerned the need for additional program faculty to share teaching loads. This item had a mean rating of 4.50 or between very important to important. One panelist commented:

> The state of the economy right now calls for budget cuts. This has made it necessary to cut back on hiring and use adjunct faculty. Because of this, I have been asked to take up an extra course from a non-rehabilitation area, which adds to my teaching load. This has taken up time that I could utilize to do research. Under-staffing is a factor. Our program has only two rehabilitation faculty and the college has denied our efforts to recruit another professor.

Another participant stated, "Teaching load of 19 credit hours interferes with research activities". The items ranked 3 and 4 by panelists were within 5 ∑Rank Points of each other, but item 3 had a higher mean rating for importance of 4.25 versus 4.00 for item 4. The item ranked 3 pertained to HBCU administrators' value for research. One panelist remarked, "I feel the university does not place a lot of value on research and that is disappointing because I view teaching and research on the same level". Finally, in issue 4, panelists addressed the need to reduce required office hours. One participant commented, "Time commitments and office hours are barriers to engaging in research".

TABLE 4
ROUND 3 RANKING OF TEACHING COMMITMENTS BY IMPORTANCE
(Category Ranking = 1, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Need for Release Time from Teaching	89	4.63	1.02	91	4.94	.25	0.31	-0.77
2) Need for Additional Program Faculty	74	4.31	.87	72	4.50	.63	0.19	-0.24
3) Administrators' Value for Research Should be Similar to Value Placed on Teaching	65	4.69	.47	65	4.25	.44	-0.44	-0.03
4) Need to Reduce Required Office Hours	60	3.81	1.32	60	4.00	.89	0.19	-0.43

Note: Ranking of issues reflect Round 3 data analysis results- ▢ = Round 3 data.

Sub-theme: Research Mentors

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Research Mentors category. As presented in Table 5, the issue concerning the need for innovative incentives that promote research mentoring ranked as most important or the number 1 issue in this category with a mean rating of 4.63. One panelist stated, "There is a lack of interest among faculty to serve as research mentors". Another participant remarked:

> There are no faculty mentors for new faculty in the department to which our program belongs. Faculty are not motivated enough to act as mentors. A faculty once hired is left to navigate his/her own way through the university system. This forms a vicious cycle, meaning no one is ready to mentor others because nobody mentored them when they first arrived.

In issue 2, the panelist addressed the need to establish formal research mentorship programs. This item was ranked second highest with a 4.69 mean rating of importance or between very

important to important. One panelist commented, "One research barrier that I see at my institution is a lack of a formal mentoring process". Another respondent stated:

>Being at an institution where research is not a priority makes it difficult to find a good mentor. There are faculty who have been at this institution for over 10 years and have never published. Some of these same faculty are on the tenure and promotion committee. There has been a push to develop a faculty mentoring program, but once again, my concern is the lack of faculty who are qualified to be a mentor.

The item ranked 3 had a mean rating for importance of 4.69 and pertained to the need to increase the number of researchers available to serve as mentors. One respondent stated, "I did not have a faculty mentor and it was difficult to learn how to teach and conduct research at the same time". Another respondent commented:

>Another barrier exists when you do not have faculty members who have the appropriate training, education, credentials and backgrounds to support human resources/key staff requirements of the grant. Additionally, it is a barrier not having faculty members who are willing to work as part of a grant or research project. This places an extra burden on the faculty member(s) who is able and willing to participate on a given project.

Although the ∑Rank Point was highest for the issue 1, the mean rating of importance was higher for items 2 and 3.

TABLE 5
ROUND 3 RANKING OF RESEARCH MENTORS BY IMPORTANCE
(Category Ranking = 2, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Innovative Incentives that Promote Research Mentoring are Needed	82	4.63	.80	86	4.63	.61	0.00	-0.19
2) Need to Establish Formal Research Mentorship Programs	79	4.75	.44	82	4.69	.47	-0.06	0.03
3) Need to increase the Number of Researchers Available to Serve as Mentors	79	4.69	.60	72	4.69	.47	0.00	-0.13

Note: Ranking of issues reflect Round 3 data analysis results-   = Round 3 data.

Sub-theme: HBCU Administrative Culture

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the HBCU Administrative Culture category. As shown in Table 6, the issue that panelists ranked as most important or number 1 concerned the need for innovative new pay incentives. The mean rating for this item was 4.88. One panelist commented that "It appears as if successful grantees are often penalized for their efforts". Another participant stated:

> There are no incentives to write grants outside of release time and possibly receiving summer compensation for managing a grant. In order to be paid by the grant, a faculty member must manage the grant during the summer. Unfortunately, managing a grant in the summer takes away from the time devoted to research during the summer.

Another respondent commented:

> There is little to no incentive to bring in grants. They give incentives and rewards to White faculty instead of minority faculty. Rewards are unfairly given to faculty and most emphasis is placed on undergraduate rather then graduate programs.

The issue concerning the need to modify administrative policies that limit faculty maximum salaries ranked second highest with a 4.75 average rating. One panelist remarked, "I don't think

TABLE 6
ROUND 3 RANKING OF HBCU ADMINISTRATIVE CULTURE BY IMPORTANCE
(Category Ranking = 3, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Innovative New Pay Incentives Are Needed	83	4.75	.57	88	4.88	.34	0.13	-0.23
2) Administrative Policies Limiting Faculty Maximum Salaries Need to be Modified	71	4.63	.71	84	4.75	.44	0.12	-0.27
3) Administrators Need to Invest More Intellectual Capital into Research Infrastructure	68	4.75	.44	63	4.44	.51	-0.31	0.07
4) Administrators' Expectations for Significant Faculty Grantsmanship Should be Enhanced	66	4.63	.61	53	4.69	.47	0.06	-0.14

Note: Ranking of issues reflect Round 3 data analysis results-   = Round 3 data.

the culture lends itself to those who work extra hard to secure external funding (e.g. for example there are limitations on how much a faculty can make after securing grant dollars); I think this is a barrier".

In the issue ranked 3, panelists addressed the need for administrators to invest more intellectual capital into research infrastructure (mean rating = 4.44). One panelist remarked that "There is lack of support from our administration for faculty creativity". Another respondent commented, "There are a lack of university resources and support, and differences of opinions with the administration on the subject of research". The issue ranked 4 related to the need for administrators to enhance their expectations for significant grantsmanship (mean rating = 4.69). One respondent commented:

> University administration does not seem to have high expectations for faculty
> to secure external funding. Even minimal success, grants averaging $10,000 to
> $20,000 are celebrated with much fanfare. Having previously worked at a large
> state university, these would be encouraged from new junior faculty but not for
> senior faculty.

There was only a 4 ∑Rank Point difference between issues 1 and 2.

Sub-theme: Student Advisement Commitments

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Student Advisement Commitments category. As presented in Table 7 below, the issue ranked 1 had a mean rating for importance of 4.69. This item reflected panelists' perceptions on the

TABLE 7
ROUND 3 RANKING OF STUDENT ADVISEMENT COMMITMENTS BY IMPORTANCE
(Category Ranking = 4, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Need for Additional Program Faculty	83	4.50	.73	85	4.69	.60	0.19	-0.13
2) Need to Reduce Time Devoted to Advising Students	79	3.69	.94	80	4.56	.51	0.87	-0.43
3) Faculty Members' Student Advisement Loads Should Be Reduced	78	3.63	1.08	75	4.31	.87	0.68	-0.21

Note: Ranking of issues reflect Round 3 data analysis results- [   ] = Round 3 data.

need for additional program faculty to carry out student advisement. One panelist stated, "There is a lack of fellow faculty advisors". The issue ranked 2 noted the need for a reduction in time devoted to advising students. One participant remarked:

> Two members of the faculty are responsible for student advising for rehabilitation students as well as other students in the Psychology Department to which our program is affiliated. This increases the advising commitment thus reducing the amount of time for research.

One other panelist stated:

> Student advisement and mentoring are the hallmarks of HBCUs. There is a strong expectation that faculty will mentor and advise students admitted into the program. Additionally, many students are admitted with GPAs below 3.0 and poor writing skills. An enormous amount of time is spent remediating these areas, which of course hinders the ability of faculty to conduct research.

The issue ranked 3 received a mean rating for importance of 4.31 and relates to the need to reduce faculty members' student advisement loads. One panelist stated, "I advise over 30 students, and this is where I spend the majority of my time". Issues 1 and 2 were within 5 ∑Rank Points of one another.

Sub-theme: Federal Research Entity Expectations for HBCU Proposal Success

As shown in Table 8, panelists identified only 1 issue under this particular sub-theme. This item had a mean rating of 4.31 and stated, "NIDRR and NIH expectations that HBCUs must collaborate with TWIs on research projects should be modified". One panelist remarked, "Concerning NIDRR, as an HBCU we will not get funded unless we partner with a TWI". Another respondent stated, "I feel confident with RSA grant writing outcomes, but not NIDRR and NIH as TWI involvement is necessary".

TABLE 8
ROUND 3 RANKING OF FEDERAL RESEARCH ENTITY EXPECTATIONS FOR HBCU
PROPOSAL SUCCESS BY IMPORTANCE
(Category Ranking = 5, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) NIDRR and NIH Expectation that HBCUs Must Collaborate with TWI on Research Projects Should be Modified	96	4.31	.94	92	4.31	.87	0.00	-0.07

Note: Findings reflect only 1 key issue under this category- ▉ = Round 3 data.

Sub-theme: University Service Commitments

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the University Service Commitments category. As reflected in Table 9, this category had 4 items with issues 1 and 2 receiving tied ∑Rank Point totals (79). The items ranked most important or number 1 concerned the need to better organize service committee meetings. This issue had the highest rating of importance (4.56). One panelist remarked, "Meetings tend to be chaotic. Policy and procedures are very rarely discussed because for the most part no one is aware of them. So you have hour long meetings with opinions flying all over the place."

The second most important or number 2 issue stated that administrators' value for research should be similar to value placed on service. The rating of importance for this issue was 4.38. One participant stated:

> Service commitments at HBCUs exceed the commitments at TWIs. Given that HBCUs have strong connections with the community, there is an increased focus on the scholarship of engagement. This focus requires a lot of faculty time and resources. The intellectual capital is typically shared between service and teaching which again hinders research.

TABLE 9
ROUND 3 RANKING OF UNIVERSITY SERVICE COMMITMENTS BY IMPORTANCE
(Category Ranking = 6, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Service Committee Meetings Should be Better Organized	75	4.13	.88	79	4.56	.62	0.43	-0.26
2) Administrators' Value for Research Should be Similar to Value Placed on Service	75	4.69	.70	79	4.38	.61	-0.31	-0.09
3) Number of Service Commitments Should be Reduced	72	3.81	.91	68	4.25	.77	0.44	-0.14
4) Number of Service Committee Meetings Should be Reduced	66	4.00	.96	62	4.38	.71	0.38	-0.25

Note: Ranking of issues reflect Round 3 data analysis results-   = Round 3 data.

The issues ranked 3 and 4 were within six ∑Rank Points of each other, but item 3 had a higher mean rating for importance of 4.38 versus 4.25 for issue 3. The issue ranked 3 related to the need to reduce the number of faculty service commitments. One panelist stated:

> I am currently on 3 university wide committees, 3 departmental committees,
> 1 professional and 2 community committees. All these committees meet
> on a regular basis. My schedule is very hectic at times. I feel like I am not
> accomplishing anything because I am stretched beyond belief.

The issue ranked 4 concerned the need to reduce the number of service committee meetings. One participant remarked, "Promotion and tenure process requires too many university service commitments- too many meetings".

Sub-theme: Administrative Duties

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Administrative Duties category. As reflected in Table 10, the issue ranked 1 or most important had a mean rating for importance of 4.75 and concerned the need for release time from teaching and service commitments. One panelist stated:

> For the past 15 years I have served as an administrator. Often I do so while
> teaching a full load, 4 courses (12 credits) each semester, and at times I have
> taught overloads. I was required to manage grants, advise students, complete
> service to the university, etc.

TABLE 10
ROUND 3 RANKING OF ADMINISTRATIVE DUTIES BY IMPORTANCE
(Category Ranking = 7, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Need for Release Time from Teaching and Service Commitments	86	4.69	.60	94	4.75	.57	0.06	-0.03
2) Time Devoted to Administrative Duties Should be Reduced	78	4.19	.91	77	4.50	.63	0.31	-0.28
3) Number of Administrative Meetings Should be Reduced	76	4.06	.85	69	4.38	.71	0.32	-0.14

Note: Ranking of issues reflect Round 3 data analysis results-　　　　 = Round 3 data.

The issue ranked 2 received a mean rating of importance of 4.50 and concerned the need to reduce administrative duties. One panelist remarked:

> It is very difficult to engage in research and grant writing when you are serving as coordinator or/and chair. It is very stressful to function in all capacities at one time. A faculty member should not be expected to maintain a teaching load, serve on numerous committees, and advise students at the same rate as they would if they were not involved in grant writing and research. This would create a significant barrier.

The issue ranked 3 received a mean rating for importance of 4.38 and stated that the number of administrative meetings should be reduced. One panelist stated, "Too much time spent on administration issues, too many meetings, too much time spent on managing budgets".

Sub-theme: Office of Sponsored Programs

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Office of Sponsored Programs category. As shown in Table 11, this category had 4 issues. Issue 1 was clearly the top-ranked item by 5 ∑RankPoints over issue 2. Issue 1 stated

TABLE 11
ROUND 3 RANKING OF OFFICE OF SPONSORED PROGRAMS BY IMPORTANCE
(Category Ranking = 8, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Personnel Should Be Well Qualified to Support Faculty Members' Grantsmanship	85	4.69	.60	82	4.75	.44	0.06	-0.16
2) Need for an Adequate Number of Qualified Staff	74	4.63	.71	77	4.63	.50	0.00	-0.21
3) Policies Should be Congruent With Policies of Other Relevant Offices	68	4.31	.87	70	4.50	.63	0.19	-0.26
4) Policies and Procedures Should be Published and Made Available at the Pre-Award and Post-Award Phases	61	3.94	.99	59	4.69	.47	0.75	-0.52

Note: Ranking of issues reflect Round 3 data analysis results-

that sponsored programs' personnel should be well qualified to support faculty members' grantsmanship. This issue received a mean rating for importance of 4.75, the highest rating in this category. One panelist commented, "Office of Sponsored Programs at this institution is not staffed by experienced grants personnel. They are well intentioned personnel, but can only handle clerical tasks for grants managements."

The issue ranked 2 concerned the need for an adequate number of sponsored programs' qualified staff. This issue had a mean rating for importance of 4.63. One participant remarked, "Great program, but they need more human resources to support funded projects and do what they are trying to do in their office". Issue 3 stated that sponsored programs' policies should be congruent with policies of other relevant offices. One panelist remarked:

> The only barrier for this department is that they need to coordinate with grants and contracts more. They are two different offices working on the same projects, but with different information. It took almost 2 months to get my grant set up because these two offices were operating off of different information. Once again, policies and procedures are not followed.

Issue 4 was concerned with the need for sponsored programs' policies and procedures to be made available at the pre-award and post-award phases. One participant stated, "The only barrier noted was the lack of printed policies and procedures for new grantees". Another participant remarked, "Office of Sponsored Programs is not helpful in the grant writing process, does not provide information on grants, and post award help has too many layers". Although issues 2 and 3 exceeded issue 4 in total ∑RankPoints, issue 4 received a higher mean rating of importance of 4.69 compared to 4.63 and 4.50 for issues 2 and 3, respectively.

Sub-theme: Federal Research Entity Grant Review Methods

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Federal Research Entity Grant Review Methods category. Although issue 1 was clearly the top-ranked item by 13 ∑RankPoint**s,** Table 12 shows that issue 2 had a higher mean rating for importance. The issue ranked 1 was concerned with NIDRR and NIH providing HBCU researchers with additional opportunities to participate on grant review panels. The mean rating of importance for this issue was 4.63, the second highest. One panelist commented:

> The grant review process appears to be slanted toward traditionally White institutions (TWIs) when looking at NIDRR and NIH. There is little mentorship, training, or support of HBCUs to apply for grants. There is also little outreach to HBCUs from these organizations to enhance their research capacity.

Another panelist remarked, "I have had several opportunities to serve as a grant reviewer for RSA's Long-Term Training and Projects with Industry grant competitions. I have had no opportunities to serve as a reviewer for NIDRR or NIH."

One other participant stated, "Since the late 1990s, I have not been asked to participate in the review process".

The issue ranked 2 had the highest mean rating of importance (4.69), and was concerned with the need for adequate representation of HBCU researchers on NIDRR, NIH and RSA grant review panels. One participant stated:

> A major barrier for the grant review process is the selection of reviewers. I have known people to be in the database for years and never get chosen to review grants. Some of the same people review these grants year after year. If the pool of reviewers is not diverse, then how will grant writers know that their proposals are being seriously reviewed.

TABLE 12
ROUND 3 RANKING OF FEDERAL RESEARCH ENTITY GRANT REVIEW METHODS
BY IMPORTANCE
(Category Ranking = 9, N = 16

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) NIDRR and NIH Should Provide HBCU Researchers Additional Opportunities to Participate on Grant Review Panels	88	4.69	.60	89	4.63	.61	-0.06	0.01
2) Adequate Representation of HBCU Researchers Should be on NIDRR, NIH and RSA Grant Review Panels	76	4.56	1.09	76	4.69	.47	0.13	-0.62
3) NIDRR's and NIH's Grant Reviewer Application Process Should be Made Available to HBCU Researchers	76	4.63	.88	75	4.50	.51	-0.13	-0.37

Note: Ranking of issues reflect Round 3 data analysis results-

Another panelist commented:

> I am sure that many applications are submitted that would provide excellent opportunities, but they are not funded because of the structure of the review process. There is a need to review the process and address areas that need to be changed.

The issue ranked 3 stated that NIDRR's and NIH's grant reviewer application process should be made available to HBCU researchers. The rating of importance for this item was 4.50. One panelist remarked, "There is a lack of knowledge about how to begin the grant reviewer application process". Another participant stated, "Contact with funding entities is self-initiated and there are no informational meetings about becoming a grant reviewer".

Sub-theme: Facilities and Human Resources

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Facilities and Human Resources category. Issue 1 was clearly the top ranked item, as shown in Table 13, exceeding the second highest ranked issue by 9 ∑Rank Points. Issue 1 received a mean rating for importance of 4.38, and was concerned with the need for adequate secretarial support in carrying out research and grantsmanship. On panelist commented that "We have no secretary or administrative support". Another participant stated, "The university has refused to hire a departmental secretary". Issue 2 stated that state-of-the-art technology infrastructure is needed. The mean rating of importance for this barrier was 4.53. One panelist commented that "The facilities and technology really is not up to par to sustain a comprehensive research agenda". Another participant stated, "Computers and other equipment are dinosaurs and the university is not willing to purchase new equipment citing cutbacks in university budgets". One other panelist remarked, "If faculty do not secure grant funding, getting some of the equipment needed does not happen".

The mean rating for importance for the barrier ranked 3 was 4.38. This issue was related to the need for additional on-site technical assistance. One panelist commented:

> Faculty are limited to what they can do by whatever resources they have. If something happens to the equipment, we have to put in a work order which often takes repeated efforts of trying to get someone to look in the work order.

Another panelist remarked:

> University resources are usually adequate, but staffed by personnel who have no incentives to support faculty research efforts. Obtaining assistance is a struggle, especially from personnel who recognize the effort as creating more uncompensated work for them or their department.

The issue ranked 4 shared a mean rating for importance of 4.25 with the issue ranked 6. In issue 4, panelist addressed the need for additional capable graduate research assistants. One participant commented, "We have no graduate research assistants". Another panelist stated, "The research assistants work limited hours and can therefore not support faculty research adequately". In issue 5, panelist addressed the need for university sponsored research seed money that could be used to develop and start-up faculty research agendas. This barrier's mean rating for importance was 4.38, which was higher than the mean rating for importance for issue 4. One panelist commented, "There is not support from the university in terms of providing funds to support research and hire graduate research assistants". Another participant stated, "Without grant funds, resources to conduct research are virtually non-existent". Another panelist remarked, 'There is no departmental or university funding for research". The issue ranked 6 was related to the need for additional library resources. One participant commented, "There are relatively few journals in the library".

TABLE 13
ROUND 3 RANKING OF FACILITIES AND HUMAN RESOURCES BY IMPORTANCE
(Category Ranking = 10, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Need for Adequate Administrative Secretarial Support	76	4.50	.81	84	4.81	.40	0.31	-0.41
2) State-of-the-Art Technology Infrastructure is Needed	63	4.56	.81	75	4.53	.50	-0.03	-0.31
3) Additional On-Site Technical Assistance Support is Needed	58	4.63	.61	62	4.38	.50	-0.25	-0.11
4) Need for Additional Capable Graduate Research Assistants	57	4.25	.93	49	4.25	.57	0.00	-0.36
5) University Sponsored Research Seed Funding is Needed	52	4.50	.81	46	4.38	.71	-0.12	-0.10
6) Need for Additional Library Resources	30	4.38		20	4.25	.85	-0.13	-0.17

Note: Ranking of issues reflect Round 3 data analysis results-

Sub-theme: Research Capacity Building Training

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Research Capacity Building Training category. The item that participants ranked

most important or number 1 concerned the need for NIDRR funded research and RSA sponsored capacity building training program curriculums to be periodically modified or updated. As shown in Table 14, this issue's mean rating for importance was 4.63. One panelist stated, "The trainings should be more detailed, expound on each other, and should not be the same training each year". Another participant commented, "A great deal more research mentoring may be required to achieve a high degree of success from these specialized programs". The issue ranked 2 stated that NIDRR and RSA sponsored capacity building trainings should be coordinated with pre-determined training dates. This issue received a 4.50 mean rating for importance. One panelist remarked, "There are no coordinated research and grant writing capacity building trainings, and those that are held are sporadic". Another respondent indicated that "HBCU faculty participation in such trainings is limited".

Finally, the item ranked 3 received the lowest rating for importance of 4.44. This item stated that the number of NIDRR and RSA sponsored capacity building trainings per calendar year should be increased. One panelist stated that "There should be more trainings offered in these areas and the trainings should be geared towards making sure that proposals are funded".

TABLE 14
ROUND 3 RANKING OF RESEARCH CAPACITY BUILDING TRAINING BY
IMPORTANCE
(Category Ranking = 11, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) NIDRR's and RSA's Capacity Building Training Curriculum Should be Periodically Modified	82	4.63	.61	89	4.63	.61	0.00	0.00
2) NIDRR and RSA Capacity Building Training Should be Coordinated with Pre-determined Training Dates	79	4.44	.89	77	4.50	.63	0.06	-0.26
3) The Number of NIDRR and RSA Capacity Building Training Per Calendar Year Should be Increased	79	4.38	.80	74	4.44	.62	0.06	-0.18

Note: Ranking of issues reflect Round 3 data analysis results-

Sub-theme: Research Collaboration with Traditionally White Institutions

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the Research Collaboration with Traditionally White Institutions category. The issue ranked 1 or most important by panelist concerned the need for NIDRR, NIH and RSA to develop innovative research collaboration incentives and initiatives. As shown in Table 15, this barrier received a mean rating for importance of 4.50. One respondent commented:

> The major barrier that I see for collaboration with a TWI is that the TWI almost always wants to be first or the applicant/priority institution. Professors at TWIs tend to have a negative opinion about HBCUs because research is not always a priority. I have heard professors tell doctoral students not to teach at HBCUs because it will be harder for them to get a job at a TWI later.

Another participant remarked:

> Since my advisor retired, I have not come across any other faculty member at TWIs whom I would feel comfortable collaborating with. They seem to be very protective of their research and not willing to let others in.

The issue ranked 2 stated that NIDRR's, NIH's and RSA's Requests for Proposals on "Minority Disability/Health Outcome Disparities" should give HBCUs an "Absolute Priority" applicant

TABLE 15
ROUND 3 RANKING OF RESEARCH COLLABORATIONS WITH TRADITIONALLY
WHITE INSTITUTIONS BY IMPORTANCE
(Category Ranking = 12, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) NIDRR, NIH and RSA Should Develop Innovative Research Collaboration Incentives and Initiatives	82	4.44	.81	87	4.50	.63	0.06	-0.18
2) NIDRR, NIH and RSA Requests for Proposals on "Minority Disability/Health Outcome Disparities" Should Give HBCUs an "Absolute Priority" Applicant Status	82	4.63	1.02	83	4.56	.51	-0.07	-0.51
3) Additional Collaborations Between HBCUs and TWIs Should be Established	76	3.88	.88	70	4.31	.87	0.43	-0.01

Note: Ranking of issues reflect Round 3 data analysis results-

status. The mean rating for importance for issue 2 was the highest at 4.56, although issue 1 had a higher total ∑RankPoints of 87. One panelist stated:

> Traditionally White Institutions want to be the lead with HBCUs providing the majority of services and research subjects. TWIs rarely invite HBCUs to collaborate due to stigma: HBCU faculty members are not good writers and do not understand research.

Finally, in issue 3, panelists addressed the need for additional collaborations between HBCUs and TWIs. Participants scored this issue a mean rating for importance of 4.31. One respondent stated, "There are no meaningful collaborations between HBCUs and TWIs that I am aware". Another panelist commented, "There has been very little collaboration between HBCUs and TWIs".

Sub-theme: HBCU Researchers' Access to Study Participants/Extant Databases

The ∑RankPoint scores provided the clearest indicator of rankings in the analysis of items within the HBCU Researchers' Access to Study Participants/Extant Databases category. As seen in Table 16, this category had 3 issues. The issue ranked most important or number 1 concerned the need for Institutional Review Board (IRB) procedures to be modified. One panelist commented:

> A barrier is the need for faculty to provide so much information to our Institutional Review Board that might not be relevant to the protection of subjects/research participants. It is very important to protect participants, but at the same time it is important to not delay the approval process for research with unnecessary requirements.

Although the issue ranked number 1 had a mean rating for importance of 4.31, the issue ranked 2 had a higher mean rating for importance of 4.38 which was also the highest mean rating for

TABLE 16
ROUND 3 RANKING OF HBCU RESEARCHERS' ACCESS TO STUDY PARTICIPANTS/
EXTANT DATABASES BY IMPORTANCE
(Category Ranking = 13, N = 16)

Key Themes/ Barriers/ Issues	Round 2			Round 3			Changed Value (MEAN)	Changed Value (SD)
	∑Rank Point	MEAN	SD	∑Rank Point	MEAN	SD		
1) Institutional Review Board (IRB) Procedures Should be Modified	82	4.44	.51	87	4.31	.79	-0.13	0.28
2) Funding is Needed to Pay Study Participants	81	4.63	.80	82	4.38	.71	-0.25	-0.09
3) Collaborative Relation-ships Between HBCUs, Federal and State Entities and TWIs are Needed	77	4.38	.80	71	3.94	.99	-0.44	0.19

Note: Ranking of issues reflect Round 3 data analysis results-

importance in this category. The issued ranked 2 stated that funding is needed to pay study participants. One panelist remarked:

> Gaining access to study participants outside of students is difficult. Particularly in rehabilitation, getting access to groups with a variety of disabilities is often difficult. In most cases the inability to pay participants prohibits research. The lack of incentives has a lot to do with access.

Finally, the issue ranked number 3 had the lowest mean rating for importance of 3.94 or between important to moderately important. In this issue, participants addressed the need for more collaborative relationships between HBCUs and Federal and state disability entities and TWIs. One participant remarked:

> It is sometimes difficult to secure research participants. Oftentimes you need more than what is present at the university or you need a more diverse sample. At this time, I am not aware of how one would go about obtaining existing databases for research. I have, however, within the past year reached out to other universities with rehabilitation programs in an effort to obtain additional participants for my current research.

Another participant stated, "Gaining access to study participants or databases must be done on your own".

Discussion and Implications

The findings of this study were based on the experiences of disability researchers employed at HBCUs. Panelists' perceptions on the importance of contextual research barriers ensuing from internal and external systems issues were examined across 13 different categories. Panel members described their experiences with Federal research entities and HBCU systems in the context of research engagement through identification of the following five key barriers to participation: heavy teaching loads, the lack of research mentors, HBCU administrative culture, heavy student advisement commitments, and Federal research entity expectations for HBCU proposal success. The presence of these barriers decreased the full participation of HBCUs in the Federal disability and rehabilitation research agenda.

Externally, the primary prescription or Rx for addressing HBCU limited research participation is reflected in current Federal research entity policy (e.g., NIDRR's Long Range Plans) and resulting research capacity building training efforts. However, these efforts have done little to bring about meaningful outcomes and impact. These policies and consequent efforts limit developing HBCU researchers' exposure to the total empirical process paradigm (i.e., identification of the problem, research question development, literature review, formulation of testable hypothesis, methodological design development, data reduction technique selection, data collection and analysis and research report development), and appear to marginalize HBCUs to a

"sub-contractor" status rather than "grantee". The marginalization of HBCUs that serve people of color and their communities from the research expected to benefit them should be a cause for great national concern.

HBCU R&D participation is ultimately impacted by Federal research entities and HBCU systems and will therefore need to be addressed by their leadership and administrators, respectively. Federal research entities [e.g., National Institute on Disability and Rehabilitation Research (NIDRR)] will need to play a more pro-active role in addressing systemic access issues via innovative policy and research initiatives and strategies. On the other hand, HBCU administrators will need to adapt to the changing times by embracing R&D as a vital university function worthy of greater intellectual capital investment.

A focal point for current disability public policy (i.e., Section 21) is to improve the rehabilitation experiences for persons of color. A goal of both Federal research entities responsible for addressing Section 21 and many HBCU researchers is to improve access, service delivery and successful return to work outcomes for persons of color who interact with the Federal-State VR program. Success is not only defined as whether a consumer is able to keep a job for a mandated period of time, but it is also determined by whether a consumer can develop an upwardly mobile career path for himself or herself. With this shared goal in mind for both the HBCU disability researcher and Federal research entities, the following section will explore what each system can do to enhance HBCU competitive R&D participation. In an effort to enhance reader utility, the discussion of each issue/barrier finding was organized under one of the following two sub-sections: (a) ways to address external research barriers, or (b) ways to address internal research barriers.

Ways to Address External Research Barriers – NIDRR, RSA, NIH
Build Advanced Rehabilitation Research Mentorship (ARRM) Programs

Findings from this study indicate a strong consensus among panelists on the importance and need for formal structured research mentorship programs. This category ranked 2 or second most important overall as a perceived R&D participation barrier. The lack of research mentors issue ranked a close second behind the heavy teaching commitment issue. Externally, Federal research entities (e.g., NIDRR) have offered HBCU faculty members relatively little opportunity for advanced rehabilitation research mentorship and training. These opportunities have been historically reserved for TWI investigators via NIDRR funding and are designed to build participant research skills and scholarly self-efficacy. Conversely, NIDRR sponsored research capacity building programs involving HBCUs have tended to provide segmented seminar type training, which is oftentimes minimal in duration and intensity. In short, little effort has been

made to provide HBCU faculty participants with advanced rehabilitation research training and sustained mentoring.

This issue is a key barrier that may acerbate the tone of complacency and/or confusion among many HBCU faculty scholars as they attempt to engage in research and develop and submit grant proposals.   Mentoring is imperative to the learning process, the development of practical skills, and the development of professional and personal relationships between novice and seasoned investigators.   There is a serious need for advanced rehabilitation R&D mentoring and training programs on HBCU campuses aimed at producing the next generation of multicultural disability and rehabilitation researchers who can become employed within the HBCU community.

Itemized issues noted among the barriers for research mentors included: (a) the lack of incentives to promote research mentors, (b) the need to establish formal mentorship programs, and (c) the need to increase the number of researchers available to serve as mentors.   In addressing this issue, it is important to consider the mentor's role and function when working with HBCU junior investigators.   In academia, the primary role of mentors is to serve as resources, coaches, and sponsors. According to Eby, Rhodes, and Allen (2007), "mentoring is a learning partnership with an experienced mentor assisting a neophyte in the acquisition of knowledge" (p. 10).   Furthermore, mentoring usually involves guidance, information, recommendations, and promoting academic and/or career placement in order to further academic and career goals (Chandler, 1996).

NIDRR sponsored rehabilitation research and training centers (RRTCs) were previously provided monetary supplements to carry out mentoring and research capacity building training with HBCUs (Hopkins et al., 2002). However, these efforts had little effect on HBCU R&D capacity as NIDRR failed to articulate a clear operational definition and expectation for the mentoring and training activities (Hopkins et al., 2002). Consequently, many RRTCs provided ineffective mentoring and training via workshops while others provided HBCU junior investigators with little opportunity to participate in the total research paradigm. In short, HBCU and RRTC mentoring relationships have proved difficult. In order for these relationships to be successful, NIDRR will need to develop a very well-thought out plan of operation with significant input from stakeholders to include HBCU researchers.

 Recommendations:

➢ NIDRR and NIH leaders must develop innovative strategies and incentives that promote the establishment of consortia research teams across the breadth of the HBCU community. One such strategy would be for NIDRR to fund consortia research teams, with HBCUs as grantees, to carry out interdisciplinary disability and rehabilitation research projects. The

research team concept would provide HBCU investigators with the incentive and opportunity to collaborate with expert seasoned HBCU researcher(s) when available, and TWI researchers [e.g., rehabilitation research and training centers (RRTCs)]. A more meaningful collaborative mentoring and capacity building training experience with breadth is required to stimulate competitive R&D participation across the HBCU community. The expected experiences (e.g., mentorship, etc.) should be clearly articulated by Federal research entities in NFPs and reflected in funded proposals plans of operation and evaluation.

➢ NIDRR leaders must establish an HBCU Advanced Rehabilitation and Research Mentorship (ARRM) Program that would fund projects, with HBCUs as grantees, to train Post-Doctoral Research Fellows in residence at HBCU's. The program would encourage cross-institutional collaboration with an HBCU consortia and a TWI [e.g., rehabilitation research and training centers (RRTCs)] in carrying out research mentoring and training. Upon completion of the post-doctoral program, fellows would be required to assume a faculty member or research position within the HBCU community for a pre-stipulated period of time. Ultimately, these investigators would gain the requisite skills sets and experiences to serve as mentors to up and coming HBCU junior investigators.

➢ NIDRR and NIH leaders must establish a Mentor-Coach Program to assist HBCU investigators to write research grants, and to manage the grants once they are secured. In light of the fact that very few HBCUs have successfully secured NIDRR projects as "grantees", mentor-coaches should be available to support faculty members' efforts. The mentor-coaches would ideally be consultants or retired investigators who have substantial experience with the respective funding agency.

➢ RSA must fund the establishment of additional Doctoral Programs in Rehabilitation Education within the HBCU community. Students would receive research mentoring as a part of their dissertation experience, and would have the opportunity to work with doctoral faculty members on research and publications.

Address Federal Research Entity Expectations For HBCU Proposal Success

Panelists' responses indicate a consensus among panelists about the importance of Federal research entity expectations for HBCU proposal success as a R&D participation barrier. Overall, this category ranked 5 or fifth most important as a perceived research barrier. This expectation speaks to the dismal outlook of the Federal disability and rehabilitation research enterprise's leadership about HBCU investigators' capabilities. Panelists commonly felt that it is important for Federal research entities to change their expectation that HBCUs must collaborate with TWIs in order to be successfully awarded R&D projects. There is a large and diverse body of

literature that exists about the importance of individuals' self-efficacy and how it contributes to their success. According to (Bandura, 1982), self-efficacy is a person's belief in his or her ability to succeed in a particular situation. Efficacy expectations are defined as the conviction that one can produce the behavior required to produce certain outcomes and outcome expectations is a person's estimate that a given behavior will lead to certain outcomes (Bandura, 1977).

Federal research entity expectations could be negatively impacting HBCU faculty members' scholarly self-efficacy and thus discouraging them from submitting competitive R&D grant proposals. That is, one consequence of lower expectations could be HBCU grant submission suppression, resulting in relatively few competitive grants submitted and selected for funding. We have coined the explanation for observation and related phenomenon as the *"Federal Research Entity Expectation and HBCU Investigator Scholarly Self-Efficacy Relational Theory"*. The theory denotes that when Federal research entities' systems and policies (e.g., NFPs requiring HBCUs to collaborate with TWIs) imply low expectations for HBCU proposal success, the likely outcome is decreased researcher self-efficacy, which acts as a deterrent to engaging in R&D proposal development and participation. This theory could serve as a plausible explanation for the disparate rate of HBCU R&D proposal submittal and outcome success. If HBCU investigators do not perceive there to be a reasonable opportunity to successfully compete for NIDRR or NIH funding with or without collaborating with TWIs, the research entity could have indirectly exacerbated the negative impact associated with non-success and thus decreased faculty members' self-efficacy and ultimately their research participation.

Recommendations:

➢ NIDRR leaders must do much more to encourage HBCUs to submit competitive applications for funding consideration across its vast investment portfolio, without requiring them to collaborate with TWIs. More specific language encouraging HBCUs to submit proposals should accompany every Notice of Final Priority (NFP). The language should read: *Historically Black Colleges and Universities are strongly encouraged to submit competitive proposals for funding consideration.*

➢ NIDRR leaders must begin to immediately fund HBCU as "grantees" across each program in its investment portfolio, and discontinue the practice of funding these institutions from the Section 21 "pot" of monies only. HBCU proposal success could address the finding on the importance of NIDRR's expectations for HBCU proposal success as a R&D participation barrier. Federal research entity expectations, as noted by the findings, may do more to suppress HBCU participation than previously realized.

➢ NIDRR, RSA, and NIH leaders must review their professional staff members' educational backgrounds and develop a plan to ensure that an equitable percentage of HBCU graduates are represented across their project officer cadre and organizational leadership. A non-race based staff recruitment plan should be implemented to increase the number of qualified HBCU graduates in the applicant pool. This plan should include numerical goals and relating timetables for achieving such goals.

➢ NIDRR, RSA and NIH leaders must review and re-tailor, as needed, personnel recruitment, equal opportunity and affirmative action plans to ensure that persons of color are adequately represented across NIDRR's, RSA's, and NIH's project officer cadre and among the organizations' leadership.

Ensure Fairness in Grant Peer Review Methods

Participants' comments illustrated their perceptions on the importance of the grant review process as a R&D participation barrier. Overall, this category ranked 9 or ninth most important as a barrier to participating in research and development activities. Itemized issues that were noted included: (a) NIDRR and NIH should provide HBCU researchers additional opportunities to participate on grant review panels, (b) adequate representation of HBCU researchers should be on NIDRR, NIH and RSA grant reviews, and (c) NIDRR and NIH's grant reviewer application process should be made available to HBCU researchers. Securing external funding is an extremely intensive scholarly activity. Universities across the U.S. are competing for grant funds, but only a minority of proposals are successful and receive funding. HBCU faculty members' future accomplishments often times depend upon building skills, knowledge, and expertise in securing grants. One major way that faculty members can increase skills for developing competitive R&D research proposals is to participate as grant reviewers (Reynolds et al., 1998).

Moreover, adequate racial/ethnic representation on panels, boards, and committees that are designed to provide judgment on a particular matter is critical to ensure fairness. The under-representation of racial/ethnic persons on panels, boards, and committees charged with providing judgment is a cause for fair due process concerns. The peer/expert grant review panel process is synonymous to our country's current judicial system; both processes are designed to evaluate, judge and render an outcome on a matter and both hold the fate of individuals or institutions in their hands. A large body of literature involving our current court jury system emphasizes the importance of having persons of color included on juries to ensure a fairer outcome (Adams & Lane, 1998; Brennan, 2007; Fukural & Krooth, 2003; Rose, Ellison, & Diamond, 2008). Groups that are not reasonably represented are left to perceive that justice has not been done and

judgments may be considered unjust (Brennan, 2007). In 2003, Fukural, and Krooth's study of racial equality asserted that a racially unrepresentative jury is one of the remaining barriers to racial equality and a recurring source of controversy in American life. Furthermore, having adequate representation of minorities during jury selection can, in fact, insure fairness of verdict outcomes. The same can be said about the under-representation of HBCU researchers, many of whom are African American, in the grant peer review process or the 'jury system''. The current study's findings clearly imply that HBCU faculty members perceive the current peer review system or "jury system" as flawed and perhaps unjust.

Recommendations:

➢ NIDRR, RSA and NIH leaders must develop a comprehensive recruitment outreach plan to increase HBCU investigators' participation on grant review panels, and to ensure that an appropriate representation of HBCU expert researchers participate on these panels. Methods of effective outreach to HBCU faculty and researchers as well a minimum African American panel participation percentage criterion should be established with substantial input from key stakeholders (e.g., HBCU researchers, faculty members, and administrators).

➢ NIDRR, RSA and NIH leaders must develop an on-line "grant review panel portal" where potential qualified HBCU researchers can review and retrieve policies, guidelines and rules about the peer review process, and obtain an application to become an expert reviewer. The on-line portal should represent a dedicated subset on the websites of these entities that can be easily recognized and accessible to the general public.

➢ NIDRR and NIH leaders must develop a "special priority/absolute priority" research initiative in the form of an extra-point system to encourage HBCUs to participate and increase the number of HBCU proposals in the applicant pool. This non-race based initiative could address bias in the peer review process by providing extra points to HBCU applicants.

➢ NIDRR, RSA and NIH leaders must increase the level of transparency of the grant review process by disclosing the HBCU faculty and racial/ethnic composite demographic data for panelist reviewing for a given competition. This practice would ensure that African Americans play an active role in the peer review process.

➢ NIDRR, RSA and NIH leaders must facilitate project officers' travel to HBCU campuses in an effort to raise faculty members and researchers awareness of the need for reviewers as well as provide them information about competitive R&D grant programs and related opportunities.

Sponsor Research Capacity Building Training

Findings from this study indicate panelists' perceptions regarding the need to modify and improve NIDRR sponsored and RSA sponsored grant writing capacity building trainings. This category ranked 11 or eleventh most important overall as a barrier. Itemized issues noted by participants included: (a) NIDRR's and RSA's capacity building training curriculum should be periodically modified, (b) NIDRR and RSA capacity building trainings should be coordinated with pre-determined training dates, and (c) the number of NIDRR and RSA capacity building trainings per calendar year should be increased. HBCU faculty members often lack the experience, knowledge, and skills to be successful grant writers (Hopkins et al., 2002). A "rigid one-size-fits-all" research and/or training curriculum does little to address these specific needs among HBCU faculty members (Yanagihara, Channg, & Emst, 2009, p. 584). Training curriculums that are responsive to current and emerging HBCU faculty members' research and grant-writing skill needs are required if R&D activities are to be stimulated across the HBCU community.

Recommendations:

➢ NIDRR leaders must fund R&D capacity building projects offering training curriculums that respond to the changing skill set needs of HBCU investigators to include: (a) research methodology training [e.g., evidence-based research, interdisciplinary research protocols, data reduction techniques, etc.], (b) competitive R&D grant-writing, and (c) report writing-peer reviewed publications, monographs, technical reports, research briefs, white papers, etc.

➢ NIDRR leaders must fund a project that analyzes HBCU investigators' unique research and grant-writing professional development needs. Findings would be used to inform the development of training curriculums and the current state of the science on R&D capacity building training.

➢ NIDRR and RSA leaders must require its sponsored capacity building projects to develop and disseminate an annual plan with scheduled training dates for the academic calendar across the HBCU community. This plan would not negate the need to hold non-scheduled technical assistance (TA) workshops and trainings in response to an unforeseen notice of final priority (NFP).

➢ NIDRR leaders must require its sponsored research capacity building projects to schedule and offer trainings more frequently. Given the temperament of the academic work schedule and the intensive nature of research, infrequent and sporadic trainings are not optimal for enhancing junior investigators' research skills.

➢ NIDRR, RSA and NIH leaders must earmark funding that can be used to provide grant-writing and management technical assistance to a broad contingency of HBCUs. This

assistance would be expected to result in an increase in the number of HBCUs successfully securing and managing grants from these respective agencies.

➢ RSA leaders must fund the establishment of new master's level disability training programs at HBCUs as part of its capacity building agenda. These master's programs feed many of their graduates into Doctoral Programs in Rehabilitation Education around the country, and some consequently become employed as faculty members and researchers within the HBCU community.

Promote Research Collaboration with Traditionally White Institutions

Findings from this study indicate panelists' perceptions on the importance of HBCU and TWI research collaboration as a participation barrier. This category ranked 12 or twelfth most important as an impediment. Itemized issues noted among the barriers related to research collaboration with TWIs included: (a) NIDRR, NIH, and RSA should develop innovative research collaboration incentives and initiatives, (b) NIDRR, NIH, and RSA "Request for Proposals on Minority Disability/Health Outcome Disparities" should give HBCUs an "Absolute Priority" applicant status, and (c) additional collaborations between HBCUs and TWIs should be established. Collaboration with TWIs could result in more culturally competent research and outcomes and enhance positive race relations (Glover, Xirasagar, Jeon, & Pastides, 2009).

While research collaboration with TWIs is considered a worthy collaboration by faculty at HBCUs, issues related to "usurpation of identity and independence" (Harley, 2000, p. 364) exist. Essentially, historic relationships between Blacks and Whites raise concerns about assimilation (Harley, 2000). An additional concern for faculty at HBCUs is the negative connotation associated with the teaching focus of HBCUs. Panelists in this study suggested that faculty at TWIs may subscribe to the stereotype that faculty at HBCUs lack adequate research skills because more time is spent in teaching activities than research activities. Thus, the HBCU is not designated as the primary institution in the collaboration.

Recommendations:

➢ NIDRR and NIH leaders must develop innovative incentives that will encourage HBCU-TWI collaborative research projects that involve HBCU researchers in the total research paradigm (i.e., identification of the problem, development of research questions/hypotheses, data collection, analysis of data, interpretation, report writing). A "Research Team" model that includes a clear articulation of NIDRR's expectation that HBCU investigators participate in the total scientific paradigm could encourage HBCU investigators to participate. A more meaningful collaborative mentoring and capacity building training experience is required to stimulate competitive disability and rehabilitation R&D at HBCUs.

- NIDRR leaders must facilitate research collaborations between HBCU disability studies programs and TWI RRTCs and development collaborations between HBCU science, technology, engineering, and mathematics (STEM) academic programs and TWI Rehabilitation Research Engineering Centers (RRECs).

- NIDRR and NIH leaders must require that HBCUs be designated as "applicant/grantee", and not sub-contractor, when HBCU-TWI collaborations are stipulated in NFPs. The designation would be noted as an "absolute priority", and should be especially adopted for NFPs that address multicultural disability employment and health outcome disparities.

Ways to Address Internal Research Barriers – HBCU Systems
Reduce Heavy Teaching Commitments

The study's findings identified a strong agreement among participants as to the importance of teaching commitments as a research barrier. This category ranked 1 or most important as a R&D barrier. According to participants, this issue was the most significant factor hindering faculty research efforts and productivity. Panelists noted that most often HBCU faculty members' teaching loads are much greater than those of TWI faculty members. While teaching is a principal duty of faculty members, very little consideration is perhaps given to the time that it takes to prepare for classroom instruction. Faculty members are sometimes required to teach more than nine hours of graduate study, which translates to 3 or more courses per week (Jackson, 2002). Consequently, the need for release time from teaching was identified as the primary factor for improving research productivity. Other itemized issues noted as barriers included: (a) the need for additional program faculty, (b) administrators' value for research should be similar to value placed on teaching, and (c) the need to reduce required office hours. HBCUs were established to provide equal opportunities in education for historically disadvantaged African American students (Wenglinsky, 1996). Thus, HBCUs' overall mission is consistent with facilitating the educational ambitions of African American students in an environment that is nurturing and empathetic to the individual needs of the students (Coaxum, 2001; Wenglinsky, 1996).

While this unique position fosters unequivocal emotional support and improved learning proficiency, very little attention is given to the value of faculty research efforts (Coaxum, 2001). By contrast, TWI faculty members are offered research fellowships with no teaching obligations and modest teaching loads of one or two courses per semester. The idea is to create a working environment that encourages R&D productivity (Wolf-Wendel & Ward, 2006).

Recommendations:

➢ HBCU administrators must reduce the overall number of courses that faculty members are required to teach. This course load reduction is especially critical to those faculty members with a proven track record and strong potential for productive research and grantsmanship and is interested in such a reduction. The reduction in course loads will result in more time and effort that can be devoted to research and grant-writing. Systems to scrutinize research productivity should be implemented to determine if release time is being used to effectively carry out a research agenda.

➢ HBCU administrators and the professoriate must review current tenure and promotion guidelines to ensure that the importance of teaching is appropriately weighted when compared to the research productivity criterion. Since teaching loads may need to be reduced, perhaps the standards for faculty members' scholarship/creativity need to be modestly increased.

➢ HBCU administrators must hire additional faculty members to assume an appropriate teaching load. This would allow faculty members to devote additional time to the development of their research agendas.

➢ HBCU administrators must review faculty members' office hour policies and reduce accordingly. This residual time and effort can be used by faculty members to engage more often in research activities.

➢ NIDRR and NIH must fund "cooperative agreement" research projects to be carried out at HBCUs that aim to develop a faculty work-load schedule model-system. The model-system, once developed, could be applied across the HBCU community in an effort to increase faculty members' research productivity while at the same time preserving the historical value placed on teaching and service for scholarship. There is a serious need for a model-system that designates faculty members' time and effort in accordance with his/her interest and tenure track status, and ensures that these standards are sufficient for them to reasonably obtain tenure and promotion within the professoriate.

Ensure a Supportive HBCU Administrative Culture

The HBCU Administrative Culture was also identified as a very important issue that impeded faculty members' research and grantsmanship efforts. This category ranked 3 or third most important as a research barrier. Panelists indicated that little to no incentives were offered as an encouragement to secure grants, more responsibility is connected with grantsmanship, discriminatory distribution of faculty rewards is an observation and administrations usually favor undergraduate programs over graduate programs. The following itemized issues were reported:

(a) lack of innovative and new pay incentives, (b) administrative policies that limit faculty salary maximums, (c) administrators' need to invest more intellectual capital into research, and (d) administrators' expectations for significant faculty grantsmanship should be enhanced.

Jackson (2002) pointed out that with regards to administrative culture, HBCUs are comparatively smaller than TWIs and their resources are significantly limited. Inasmuch as this poses many challenges for administrators, substantial diligence is required to ensure that faculty members are reasonably remunerated in terms of pay and that R&D efforts are incentivized. Historically, teaching assignments receive copious amounts of attention. Often regarded as 'nurturing' and 'supportive, HBCUs are obligated to function as multilevel institutions, thus meeting the unique educational needs of its student population (Allen & Jewell, 2002). To achieve a delicate balance, however, HBCU administrations must either establish or renew their commitment to scholarly activity that is specific to research and grantsmanship (Jackson, 2002).

Recommendations:

➢ HBCU administrators must implement a "bonus compensation award program" that would monetarily reward faculty members for securing grants. This monetary award would be in addition to summer grant work compensation.

➢ HBCU administrators must review current policies that limit faculty salaries, regardless of grantsmanship success. These policies can serve as a deterrent to grantsmanship and research participation, especially for faculty members who are capable of securing additional grants. New policies that significantly raise maximum "soft-money" salaries should be established to incentivize research productivity above and beyond normal outcomes.

➢ HBCU administrators must invest more intellectual capital into research infrastructure by establishing a Chief Research Officer position (e.g., Graduate Dean and Vice President for Research) on campus. This person should be knowledgeable about the institution's grantsmanship processes as well have experience in conducting research funded by NIDRR, NIH, private/non-profit foundations, etc. He/she would be responsible for articulating the institution's value and commitment to faculty and student research.

➢ HBCU administrators must implement a university-wide Distinguished Professor/Researcher award that would be given to faculty members and investigators who have made significant contributions to their respective field of study's body of knowledge. This award and recognition would be accompanied by a significant monetary gift.

➢ HBCU administrators must establish University Endowed Chairs within the professoriate across schools to stimulate faculty members' research productivity above and beyond what is required by a "full professor". Endowed Chairs would be provided a reasonable monetary

supplement on a yearly basis to assist them in carrying out their research and peer and student mentorship activities. They would have a track record of securing and carrying out research funded by NIDRR, NIH, private/non-profit foundations, etc.

➢ HBCUs' Boards of Regents/Trustees must hire Chief Executive Officers (i.e., Presidents and Chancellors) to lead these institutions who have a good understanding of the complexities associated with faculty scholarship as well as a strong value for faculty and student research.

➢ HBCU Chief Executive Officers (i.e., Presidents and Chancellors) must recruit and hire administrators (i.e., Provosts/Vice Presidents for Academic Affairs, Chief Research Officers, and Deans) to fill vacant positions who have a proven and significant record of scholarly research and/or development, research publications, and successful grantsmanship, in addition to having a very strong value for teaching and scholarship for service and fund-raising.

➢ HBCU administrators must redirect a sizeable proportion of grant project indirect costs back to the investigator or department to be used as discretionary funds in support of faculty research efforts.

➢ HBCU administrators must develop a university sponsored mini-grant program that would provide seed money to support individual faculty members' research agendas by paying research assistants' salary, participant honorarium, etc.

Modify Heavy Student Advisement Responsibilities

The current study's findings indicate agreement among participants about the need to decrease time devoted to student advisement.   This category ranked 4 or the fourth most important research barrier.   Itemized issues noted among the barriers under this category included: (a) need for additional program faculty, (b) need to reduce time devoted to advising students, and (c) faculty members' students advisement loads should be reduced.   Academic advising is the process whereby advisor and students work together to attain student educational and life goals.   HBCUs historically view advisement and mentoring as hallmarks within the landscape of academia.   Thus, expectations of extended involvement in students' academic success are high. Astin (1999) asserted in his investigation of students and faculty involvement that:

> Frequent interaction with faculty is more strongly related to satisfaction with college than any other type of involvement… Students who interact frequently with faculty members are more likely than other students to express satisfaction with all aspects of their institutional experience, including student friendships, variety of courses, intellectual environment, and even the administration of the institution (p.525).

Student mentorship effectiveness requires faculty accessibility and support and the presence of minority faculty and staff members on the campus (Pope, 2002). However, mentoring students can be an on-going and tremendously time consuming activity. Nonetheless, student mentoring is absolutely critical for enhancing HBCU students' success.

Recommendations:

➢ HBCU administrators must hire new faculty members to assist current faculty with advisement responsibilities. This action would result in faculty members' having additional time and effort to devote to scholarship.

➢ HBCU administrators must streamline program/departmental course offerings (e.g., minimize course electives) in order to simplify the enrollment process, help students become more independent in navigating this process, and reduce time that faculty members devote to advising students.

➢ HBCU administrators must continue to enhance current institutionalized information technology (IT) infrastructure capacity in order to systematically and more effectively monitor and prevent premature enrollment of students. This IT infrastructure enhancement would reflect a non-manual system interface connected with computerized enrollment that can be programmed to place enrollment holds due to prerequisite requirements, etc.

➢ HBCU administrators must develop a Student Academic Advisement Time Block that will reflect a specific date and time when students will meet with their advisor within the semester/quarter.

➢ HBCU administrators must develop a university sponsored "Academic Advisement Center" where students can seek, plan, and retrieve general and specific academic information, be advised and enrolled in courses. This action would reduce faculty members' student advisement loads.

➢ HBCU administrators must hire a full-time or part-time department or program advisor. This individual would have the primary responsibility of advising students in the department/program.

Minimize Heavy University Service Commitments

The study's findings indicated that university service was ranked 6 or the sixth most important as a barrier to participating in research and development activities. Participants commented that due to the substantial linkage between HBCUs and the communities they serve, HBCU faculty members' service commitments are much greater than such commitments at TWIs. Itemized issues noted as barriers related to university service commitments included: (a) service

committee meetings should be better organized, (b) administrators' value for research should be similar to the value placed on service, (c) number of service commitments should be reduced, and (d) the number of service committee meetings should be reduced.

Recommendations:

➢ HBCU administrators and the professoriate must ensure that committee meetings are highly organized. Chairs should establish formal protocol for service committee meetings that reflect parliamentary procedures to help meetings run smoothly and end in a timely fashion.

➢ HBCU Chief Executive Officers (i.e., Presidents or Chancellors) must place more value on research by recruiting administrators (i.e., Provosts, Vice Presidents for Academic Affairs, and Deans) to vacant positions who not only have a strong value for service and outreach, but also possess a significant record of scholarly research, research publications, and successful grantsmanship.

➢ HBCU administrators and the professoriate must work together to redefine "scholarship for service" to include peer review activities (e.g., journals, Federal research entity grant panels, monographs, etc.). These peer review activities should be given proper value and weight as a professional service activity.

➢ HBCU administrators must discontinue the practice of appointing the same productive research oriented faculty members to university service committees. This practice can lead to "burn out" among the most capable faculty member and result in job dissatisfaction and low research productivity. A mechanism should be created and implemented that prevents the same productive faculty member from being drafted to work on numerous committees.

➢ HBCU administrators, with shared input from the professoriate, must establish a "cap" on the number of committees that a faculty member can serve on as member.

➢ HBCU administrators and the professoriate must work to reduce the number of unnecessary service committee meetings.

Address Administrative Duties

Findings in the current study indicate a consensus among participants on the importance of administrative duties as an impediment to engaging optimally in research. This category ranked 7 or seventh most important as a research barrier. Itemized issues noted among the barriers related to administrative duties included (a) need for release time from teaching and service commitments, (b) time devoted to administrative duties should be reduced, and (c) number of administrative meetings should be reduced. Faculty members who serve in

administrative positions such as chair or coordinator of a program are still expected to serve in other capacities. Along with administrative duties, faculty members are expected to serve on numerous committees, maintain teaching loads, and advise students. Thus, functioning in several capacities simultaneously is a barrier to participation in research due to time limitations and added stress. Other researchers have noted that the duties of an administrator significantly reduce available time for research and development of grants (Epps & Guidry, 2009).

Recommendations:

➢ HBCU administrators must reduce teaching and service commitment time and effort percentages for faculty members with dual roles (i.e., department chair or program coordinator). Reductions in these areas would give faculty more time to devote to research.

➢ HBCU administrators must devise ways to reduce the time that program coordinators and department chairs devote to administration. One way is to hire administrative support personnel that can support coordinators and chairs in their administrative roles.

➢ HBCU administrators must emphasize the utilization of technology in an effort to reduce the need for some administrative meetings. For example, web-based programs such as Doodle can be used to communicate information to other administrators and faculty members. This technology would also allow administrators and faculty members to add and review information and respond to all other participants logging onto the website.

Strengthen Sponsored Programs Offices

The study's findings yielded a strong consensus among panelists about the importance of the Office of Sponsored Programs (OSP) as a R&D barrier. This category ranked 8 or the eighth most important as a R&D barrier. Itemized issues noted included: (a) personnel should be well qualified to support faculty members' grantsmanship, (b) need for an adequate number of qualified staff, (c) policies should be congruent with policies of other relevant offices, and (d) policies and procedures should be published and made available at the pre-award and post-award phase. The issue that OSP personnel should be well qualified to support faculty members' grantsmanship clearly emerges as the chief issue. A presidential executive order in 1979 directed Federal agencies to assist HBCUs in achieving two goals: (1) providing quality education and (2) increasing their opportunities to participate in the mainstream of Federal assistance programs (Roumel, 1994). Though the executive order was implemented, success of the efforts of HBCUs is predicated upon internal administration structures that service, coordinate, and manage the sponsored program function. Roumel's (1994) investigation of HBCU OSP capacity building programs found that a competent, well staffed, institution policy and procedure supported OSP is critical to HBCUs success in securing external Federal grant support.

Recommendations:

➤ HBCU administrators must support and require sponsored programs office personnel to attend a minimum number of professional development trainings and workshops. This participation should help them stay abreast of current and emerging best practices for supporting faculty members' research agendas and grantsmanship.

➤ HBCU Chief Executive Officers must ensure the hiring of sponsored programs staff with a record of grantsmanship themselves, and who possess significant experience in a sponsored programs office supporting faculty members' grantsmanship.

➤ HBCU Presidents must require directors of sponsored programs offices to review their policies and procedures (i.e., indirect cost rate calculations) to ensure that they are congruent with those in the comptroller's office, etc.

➤ HBCU Chief Executive Officers must require that sponsored programs offices publish policies and procedures periodically and systematically disseminate to faculty members and investigators.

➤ HBCU administrators must require their sponsored programs office to coordinate and offer periodic grant-writing trainings and workshops for interested faculty members and students. The trainings should focus on enhancing their knowledge about possible funding sources, interpreting NFPs, selections criteria, etc. NIDRR and NIH officials should be periodically invited to come to campus to inform the faculty cadre about possible grant opportunities.

➤ HBCU Chief Executive Officers must enact and enforce annual reviews of the effectiveness of sponsored programs office staff as measured by their ability to: draw down funds in a timely fashion, assist grantees, address questions, and interact effectively with Federal research entities.

Enhance Facilities and Human Resources

The study's findings revealed that the facilities and human resources issue ranked 10 or tenth in terms of importance as a R&D barrier. HBCU resources are a ponderous concern. As compared to TWIs, HBCU endowments are considerably lower and overall fundamental resources are lacking. Consequently, critical needs that can greatly impact research efforts and grantsmanship are sometimes not addressed. The availability of resources, or lack thereof, is heavily determined by Federal grants and contracts, university endowments and student enrollment.

Title III of the Higher Education Act of 1986, authorized funds "to establish or strengthen the physical plants, financial management, academic resources and endowments of historically Black

colleges and universities" (Redd, 1998). Although student aid programs have been a major attraction for students to attend college, HBCUs have witnessed a decline in African American students' total enrollment over the past three decades (Sissoko & Shiau, 2005). As a result, many of these institutions have scrambled to find ways to improve enrollments to offset budget challenges that greatly impact faculty members' research and grantsmanship efforts (Adkisson & Peach, 2008). Panelists concur with comments that suggest that faculty members are very restricted by their available resources. Itemized issues noted as barriers related to facilities and human resources included: (a) the need for administrative/secretarial support, (b) the need for state-of-the- art technology and infrastructure, (c) the need for additional capable graduate research assistants, (d) the need for university sponsored research seed funding, and (d) the need for additional library resources.

Recommendations:

➢ HBCU administrators must redirect monies to hire qualified administrative/secretarial personnel within academic programs and departments whose duties would include, but not be limited to, carrying out clerical and office tasks, office management, customer service and providing administrative support to faculty members.

➢ HBCU administrators must utilize external expert consultants to review current university-wide technology infrastructure with an eye toward maximizing the integration of program and department level student information into the larger university "mainframe/network". The lack of an integral system for example, results in program faculty sometimes spending an enormous amount of their time gathering student data. A more integrative and robust record keeping technology system could perhaps reduce the amount of time faculty spend gathering students information in order to write reports for accrediting agencies, university administrators, Federal research entity grantors, etc.

➢ HBCU administrators must provide adequate on-site technical-assistance to immediately address faculty technology problems that may limit their research, publication, and grantsmanship efforts. Prompt responses to technology issues experienced by faculty (e.g., non-operational computers, printers, and screens, need to update statistical analysis program and/or word processing software) could reduce faculty members' frustration levels and increase their research productivity.

➢ HBCU administrators must solicit external funding or redirect internal funds to provide additional Graduate Research Assistantships to students interested in working with faculty on research projects.

➢ HBCU administrators must fund the purchase of additional library resources (e.g., librarian assistants, books, monographs, peer-reviewed journal article subscriptions) to support faculty members' research and development activities.

Promote Access to Study Participants

Findings in the current study indicate a consensus among participants in regards to access to study participants as a R&D barrier. This category ranked 13 or least important as a research barrier. Itemized issues noted among the barriers to accessing study participants included: (a) Institutional Review Board (IRB) procedures should be modified, (b) funding is needed to pay study participants, and (c) collaborative relationships between HBCUs, Federal and State entities, and TWIs are needed. In light of the growing numbers of persons from racial and ethnic diverse groups in U.S. (Bernal & Ortiz-Torres, 2009; Taylor-Ritzler, Balcaza, Suarez-Balcazar, & Garcia-Iriarte, 2008), there is an increasing need to address research gaps in the broader multicultural disability and rehabilitation research agenda. Cultural dynamics of underserved disability populations such as language barriers and mistrust of dominant culture often preclude their participation in research (Hopkins et al., 2002). Thus, gaining access to study participants from ethnically and racially diverse populations (e.g., African Americans) will require additional initiatives.

Recommendations:

➢ HBCU administrators must establish an Institutional Review Board (IRB) Policy Review Committee. This committee would consist of IRB members and faculty members at large. The charge of the committee would be to review and evaluate current IRB approval policy and practices and to make recommendations to enhance faculty members' research productivity.

➢ HBCU administrators must designate funding to pay research participants. Financial incentives would increase the likelihood that individuals would participate in research.

➢ HBCU administrators must support the development of a formal collaborative networking consortium to include HBCU faculty members, state, and Federal disability and health service entities. The consortium would provide additional networking opportunities for HBCU researchers to build relationships with these agencies. The increase in the number of relationships between researchers and entity leaders could perhaps increase their opportunities to access participants.

Overarching Legislative/Policy Recommendations-Accountability Measures

➢ NIDRR must contract an Independent Consultant with an expertise in the state-of-the-science on improving HBCU disability and rehabilitation R&D participation to conduct a comprehensive assessment of NIDRR's Section 21 capacity building program and systems. This consultant would be provided access to NIDRR's staff and public and non-public records on a year to year basis, and would be required to generate a technical report with

findings and recommendations. This accountability measure would ensure a periodic, non-biased, objective review of NIDRR's capacity building program's impact on HBCU R&D capacity building.

➢ The Secretary of the U.S. Department of Education, whether appointed by a Democrat or Republication President, must periodically review NIDRR's progress in addressing HBCU's lack of access to research dollars as "grantee", and their under-representation across the investment portfolio. This review should be accomplished in consultation with the Independent Consultant's generated technical report.

➢ The U.S. Congress must amend the Act, Section 21 Mandate, to stipulate at least 1% of NIDRR's budget will be devoted to HBCUs as "grantees" to develop their R&D capacity infrastructure and resources. This is an agenda item that perhaps the National Association of Equal Opportunity and Higher Education (NAFEO) could support and influence the **Congressional Black Caucus (CBC)** to champion in an effort to stimulate disability and rehabilitation research participation within the HBCU community.

➢ NIDRR must track and report to the public the number of HBCUs that are awarded projects as "grantees" and "sub-contractors" on an annual basis. This accountability measure would provide objective data to be used by the Secretary of the U.S. Department of Education, the Independent Consultant and other key stakeholders to evaluate NIDRR's progress in building HBCUs capacity to participate in competitive R&D. Moreover, results would be used to inform NIDRR's Long-Range Plan process about what could be done to enhance the R&D capacity and participation across the HBCU community.

Conclusion

This study examined the R&D participation experiences of HBCU disability researchers. Five key barriers that panelists noted as most important emerged from the findings. These barriers include heavy teaching loads, the lack of research mentors, HBCU administrative culture, heavy student advisement commitments, and Federal research entities expectations for proposal success. The findings indicated that the presence of these barriers limited research participation, and that Federal research entities expectations for HBCU proposal success may have more bearing on HBCU R&D participation outcomes than previously realized. There is a need to study the interplay between Federal research entities' expectations for HBCU proposal success and researchers' self-efficacy and research participation. It was clear that the participants not only perceived HBCU systems as a research inhibitor, but they also noted the importance of current external Federal research entity systems as a deterrent to participation. In short, NIDRR's grant review and proposal selection system may not represent a true meritocracy.

This analysis of these experiences emphasizes the need to address these systems issues, both external and internal. The importance of HBCU involvement as "grantees" calls for a renewed Federal disability agenda that expands the breadth of funding beyond a select group of TWIs. HBCU participation in the Federal disability and rehabilitation R&D agenda is intertwined with the need to address issues affecting the disparate rehabilitation outcome rates of people of color with disabilities. HBCU researchers can conduct culturally relevant research that makes a unique and relevant contribution to the field. By providing recommendations on what Federal research entity leaders can do and how HBCU internal systems can adapt, this study outlines some potential ways to stimulate competitive disability and rehabilitation research participation across the HBCU community. Section 21 of the Rehabilitation Act Amendments provides the best opportunity for HBCUs, in cooperation with NIDRR and RSA, to harness their potential to articulate the relevant problems and to generate the solutions to address these issues.

References

Adams, E. S., and Lane, C. J. (1998). Constructing a jury that is both impartial and representative. *New York University Law Review, 73*(3), 703-765.

Adkisson, R.V., & Peach, J. T. (2008). Non-resident enrollment and non-resident tuition at land grant colleges and universities. *Education Economics, 16*(1), 75-88.

Alexander, J., & Kroposki, M. (1999). Outcomes for community health nursing practice. *Journal of Nursing Administration*, 29 95), 49-56.

Allen, W. H., & Jewell, J. O. (2002). A backward glance forward: Past, present, and future perspectives on historically Black colleges and universities. *The Review of Higher Education, 25*(3), 241-261.

Association of Governing Boards of Universities and Colleges (2010). *2010 public institution and university system financial conditions survey*. Retrieved from http://www.commonfund.org/CommonfundInstitute/Documents/PublicFinancialConditions.pdf

Astin, A.W. (1999). Student involvement: a developmental theory for higher education. *Journal of College Student Development, 40*(5), 518-529.

Avery (2009). Taking the pulse of historically black colleges. *Acad. Quest, 22*, 327-339.

Baker, T. L., & Valez, W. (1996). Access to and opportunity in postsecondary education in the United States- A review. *Sociology Education*. NIS.82-101.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavior change. *Psychological Review*, *84*, 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*, 122-147.

Bernal, G., & Ortiz-Torres, B. (2009). Barriers to research and capacity building at Hispanic-serving institutions: The case of HIV/AIDS research at the university of Puerto Rico. *American Journal of Public Health, 99*(S1), S60-S65.

Brennan, F. (2007). Ethnic minority representation on juries: A missed opportunity. *Internet Journal of Criminology*. Retrieved from http://www.internetjournalofcriminology.com.

Broussard, S. L. (2009). Increasing and enhancing service delivery outcomes for individuals who are chronically underserved and underrepresented in rehabilitation services: Promotion evidence-based practices and developing the measurable, observable behaviors and skills (MOBS) multicultural survey. *Journal of Minority Disability Research and Practice, 1*(1), 16-30.

Brown, B. B. (1968). *Delphi process: A methodology used for the elicitation of opinions of experts*. Santa Monica, CA: Rand.

Brown II, M. C., Alston, R. J., & Moore, C. L. (2000). Historically black colleges and universities: A primary agent for implementing Section 21 of the Rehabilitation Act Amendments. *Rehabilitation Education, 14*(4), 335-344.

Cargill, V. A. (2009). Recruiting, retaining, and maintaining racial and ethnic minority investigators: Why we should bother, why we should care. *American Journal of Public Health, 99*(S1), S1-S7.

Chandler, C. (1996). Mentoring and women in academia: reevaluating the traditional model. *National Women's Studies Association Journal*, 79-100.

Clark, K. (2009, February). Why black colleges might be the best bargains: The recession has hit some campuses hard but also is opening opportunities for students of all races. *U.S. News World Report*. Retrieved from http://www.usnews.com/articles/education/paying-for-college/2009/02/09/why-black-colleges-might-be-the-best-bargains.html

Coaxum, J. (2001). The Misalignment between the Carnegie classifications and Black colleges. *Urban Education, 36*(5), 572-584.

Coleman, T., & Matthews, J. (2011). Black Colleges Step Up Pursuit of Sponsored Research. *Diverse Issues in Higher Education*. Retrieved from http://diverseeducation.com. article/14,582.

Creswell, J. W., Gutmann, M. L., Hanson, W. E., & Plano-Clark, V. L. (2003). Advanced mixed methods research designs. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp.212). Thousand Oaks, CA: Sage Publications, Inc.

Dennis, J. (2006). *State shortfalls projected to continue despite economic gains: Long-term prospects for higher education no brighter.* Retrieved from http://www. highereducation.org/reports/pa_shortfalls/State_Shortfalls.pdf

Diane, C. (2007, October). At the crossroads of history: America's best black colleges. *U.S. News & World Report, 143*(12), 60-62.

Eby, L. T., Rhodes, J. E., & Allen, T. D. (2007). Definition and evaluation in mentoring. *The Blackwell handbook of mentoring: A multiple perspectives approach*, pp. 7-20. Malden, MA: Blackwell Publishing.

Evans, A. L., Evans, V., & Evans, A. M. (2002). Historically Black Colleges and Universities (HBCUS). *Education, 123*(1), 3-17.

Epps, I. E., & Guidry, J. J. (2009). Building capacities among minority institutions to conduct disability research: What is the problem? *Journal of Minority Disability Research and Practice, 1*(1), 3-15.

Franklin, K., & Hart, T. (2007). Idea generation and exploration: Benefits and limitations for the policy Delphi research method. *Innovation Higher Education*, 31, 237-246.

Fukural, H.,& Krooth, R. (2003). Race in the Jury Box. Sunny Press.

Gay, R. L., Mills, G. E., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications*. Upper Saddle River, NJ: Pearson Education, Inc.

Glover, S. H., Xirasagar, S., Jeon, Y., & Pastides, H. (2009). Academic partnerships with historically Black colleges and universities: A public health professions project. *Journal of Health Care for the Poor and Underserved. 20*(1), 18-28. doi: 10.1353/hpu.0.0119.

Guidry, J. J. (2002). *Disability and rehabilitation research: Capacity of minority investigators and institutions.* Paper presented at the Improving Health of Minorities with Disabilities by Breaking Down Barriers to Disability and Rehabilitation Research Symposium, Washington, D.C.

Harley, D. A. (2000). University partnerships between minority institutions and major research universities: Expanding academic opportunities and strengthening collaborations. *Rehabilitation Education, 14*(4), 359-368.

Harley, D. A., Alston, R. J., Fennessee, W., & Wilson, T. (2000). Addressing diversity in rehabilitation education at HBCUs: Meeting desegregation challenges through majority student recruitment. *Rehabilitation Education, 14* (4), 369-383.

Haysbert, J. (2010, August). *State of the university address.* Presented at 2010 Fall Faculty Institute, Langston University, Langston, Oklahoma.

Hopkins, D. W., Looby, E. J., Thornton, L. (2002). The national institute on disability and rehabilitation research: An assessment of its role in building the rehabilitation research and training capacity of minority entities. Washington, D.C.: The National Institute on Disability and Rehabilitation Research.

Inouye S. K., & Fiellin D. A. (2005). An evidence-based guide to writing grant proposals for clinical research. *Ann Intern Med, 142*, 274–282.

Jackson, D. H. (2002). Attracting and retaining African American faculty at HBCUs. *Education, 123*(1), 181-186.

Jairath, N., & Weinstein, J. (1994). The Delphi Methodology (part One): A useful administrative approach. *Canadian Journal of Nursing Administration*, 7 (3), 29-40.

Kaynak, E., Bloom, J., & Leibold, M. (1994). Using Delphi Technique to predict future tourism potential. *Marketing Intelligence & Planning*, 12 (7), 18-29.

Keeney, S., Hanson, F., & McKenna, H. (2006). Consulting the oracle: Ten lessons from using the Delphi technique in nursing research. *Journal of Advanced Nursing*, 53 (2), 205-212.

Kundu, M. M. & Dutta, A. (2000). Rehabilitation capacity building empowerment, inclusion, and integration. *Rehabilitation Education, 14*(4), 345-357.

Lewis, A. N., Shamburget, A., Head, C., Armstrong, A. J., & West, L. S. (2007). Section 21 of the 1992 Rehabilitation Act amendments and diversity articles. *Journal of Vocational Rehabilitation, 26*, 89-96.

Moore, C. L., Ferrin, M. J., Haysbert, N., Brown, S., Cooper, P., Deibel, J., Washington, A., Sassin, J., Manyibe, E., Azadian, M., & Cantrell, C. (2009). Employment outcome

rates of African Americans versus White consumers of vocational rehabilitation services: A meta-analysis. *Journal of Applied Rehabilitation Counseling*, *40* (3), 3- 10.

Moore, C. L., Porter, D., & Flowers, C. (2000). Teaching in a rehabilitation program at a minority institution: Perceptions of faculty. *Rehabilitation Education, 14*(4), 407-416.

Murry, J. P. (1992). Expectations of department chairpersons: A Delphi case study. *The Journal of Staff, Program and Organization Development*, 10, 13-21.

National Institute on Disability and Rehabilitation Research. *Notice of Proposed Long-Range Plan for Fiscal Years 2010-2014; 74 (10), page 2564-2569.* (January 15, 2009).

Park, I., Lee, J., Shambhu, J., Upadhyaya, S., & Rao, R. (2006). Guest editorial- part 2: Emerging issues for secure knowledge management: Results of a Delphi study. *IEEE Transaction on System, Man and Cybernetics, Part A: Systems and Humans*, 46 (3), 421-428.

Ponder, H. (2001, April). *Prepared testimony for the education and the workforce committee: Subcommittee on select education.* Presented at the Field Hearing, Oklahoma City, Oklahoma.

Pope, M. (2002). Community college mentoring minority student perception. *Community College Review*, *30*(3), 31-45.

Rehabilitation Services Administration. (2005). Notice of Final Priority, 70 Fed. Reg. 103 (May 31, 2005).

Redd, K. E. (1998). Historically Black colleges and universities making a comeback. *New Directions for Higher Education, 102*, 33-43.

Reynolds, C. F., Martin, C., Brent, D., Ryan, N., Dahl, R. E., Pilkonis, P., Marcus, M. D., and Kupfer, D. J. (1998). A Model for Teaching Grant Writing and Other Research Survival Skills and for Increasing Clarity of Mentoring Expectations. *Academic Psychiatry*. *22*, 190-196.

Rice, K. (2009). Priorities in K-12 Distance Education: A Delphi Study Examining Multiple Perspectives on Policy, Practice and Research. *Educational Technology & Society, 12* (3), 163-177.

Rose, M. R., Ellison, C., & Diamond, S. (2008). Preferences for juries over judges across racial and ethnic groups. *Social Science Quarterly, 89*(2), 372-391. doi.10.1111 /j.1540-6237.2008.00537

Rosenthal, D., Ferrin, M., Wilson, K., & Frain, M. (2005). Acceptance rates of African American versus White consumers of vocational rehabilitation services: A meta-analysis. *Journal of Rehabilitation*, 71(3), 36–44.

Roumel, T. J. (1994). A blueprint for establishing a successful office of sponsored programs: the public health service historically black college and university capacity building program.

SRA Journal. Retrieved from accessmylibrary: http://www.accessmylibrary.com/article-1G1-16454122/blueprint-establishing-successful-office.html

Schultz, J. C., Koch, L. C., & Kontosh, L. G. (2007). Establishing rehabilitation research priorities for the national council on rehabilitation education. *Rehabilitation Education, 21*(3), 149-158.

Sissoko, M., & Shiau, L. R. (2005). Minority enrollment demand for higher education at historically Black colleges and universities from 1976 to 1998: An empirical analysis. *The Journal of Higher Education, 76*(2), 181-208.

Taylor-Ritzler, T., Balcaza, F. E., Suarez-Balcazar, Y., & Garcia-Iriarte, E. (2008). Conducting Disability research with people from diverse ethnic groups: Challenges and opportunities. *Journal of Rehabilitation, 74*(1), 4-11.

U.S. Commission on Civil Rights. (2010). *Briefing Report:2010.* Washington, DC: Retrieved from http://www.usccr.gov

Volk, K. (1993). Curriculum development using the Delphi Technique. *Technology Research*, 52 (4), 35-36.

Wenglinsky, H. H. (1996). The educational justification of historically Black colleges and universities: A policy response to the U.S. Supreme Court. *Educational Evaluation and Policy Analysis, 18*(1), 91-103.

White House Initiative on Historically Black Colleges and Universities (2008). Retrieved from http://www.ed.gov/about/inits/list/whhbcu/edlite-index.html

Wolf-Wendel, L. E., & Ward, K. (2006). Faculty life at comprehensive colleges and universities: The perspective of women faculty. *Journal of the Professoriate, 1(2), 5-21.*

Yanagihara, R., Chang, L., & Emst, T. (2009). Building infrastructure for HIV/AIDS and mental health research at institutions serving minorities. *American Journal of Public Health, 99*(S1), S82-S86.

Zea, M. C., & Belgrave, F. Z. (2009). Mentoring and research capacity-building experiences Acculturating to research from the perspective of the trainee. *American Journal of Public Health,99*(S1), S16-S19.

APPENDIX A

Letter Soliciting Delphi Panel Nominations

September 22, 2009

(ADDRESS OMITTED)

Dr. _____ :

As part of Langston University's Delta Sigma Theta Sorority, Inc. Distinguished Professor Endowed Chair Award, we are conducting research to identify salient barriers that may prevent HBCU rehabilitation education faculty from optimal participation in disability and rehabilitation research and grantsmanship. The purpose of this research is to study and develop strategies for strengthening resources and disability rehabilitation research capacity of HBCU housed RCE programs. It is hoped that the research results will identify the expertise and infrastructure requirements needed to ensure HBCU rehabilitation education faculty members' optimal participation in disability and rehabilitation research.

I am seeking your assistance in this research study as Associate Professor at (NAME OF HBCU). We will be utilizing survey research methods to include the Delphi technique to complete this research. To be able to utilize a Delphi technique, we will need a panel of experts in grantwriting/ research. A list of potential experts will be generated by representatives from 12 HBCUs, such as yours. As a representative of your university, please submit 2 or more names of disability research experts outside your own institution. Enclosed are the criteria for the selection of participants. If you prefer, you may submit names of participants in your department who you feel are knowledgeable and willing to participate in this nomination process.

Please submit your nominations along with their physical address and email address in the enclosed self-addressed, stamped envelope by Thursday, October 15, 2009. Thank you for your participation in this segment of our study. It is my desire that HBCU disability and rehabilitation researchers will benefit as a result of this study.

Sincerely,

Corey L. Moore, Rh.D., CRC
Delta Sigma Theta Sorority, Inc. Distinguished Professor
Endowed Chair of Rehabilitation Counseling

Enclosure

APPENDIX B

Nomination Form

**Barriers to the Participation of Historically Black Colleges and Universities in the Federal Disability and Rehabilitation Research and Development Enterprise:
The Researchers' Perspective (Changed from Former Title)**

Please consider the following criteria for identification of 2 or more nominees to participate in the research study:

1. Nominees must be a disability educator researcher/faculty member at a historically Black college/university (HBCU) with a minimum of five years of experience in a master's level rehabilitation counseling program.

2. Nominees must have experience using electronic mail in order to send and receive messages; experience printing from electronic mail; and have the ability to download and upload computer data files.

Based on the above criteria, I nominate the following person(s): (please print)

Name & Address	Institution	Email	Phone No

The above named individuals will be contacted and requested to <u>voluntarily</u> participate in the research project. Participants (expert panel members) will be paid an honorarium of $500 for participating in the research project. Thank you for taking the time to nominate persons who you believe will provide valuable input into the research. Please return this nomination form to:

Corey Moore, Rh.D., CRC   Fax to:
Delta Sigma Theta Sorority, Inc.   OR   405-962-1638
Distinguished Professor Endowed Chair
Langston University
4205 North Lincoln Blvd.
Oklahoma City, OK. 73105

APPENDIX C

Round One Instructions and Survey

Barriers to Engaging in Research and Grantsmanship

Study Title: Barriers to the Participation of Historically Black Colleges and Universities in the Federal Disability and Rehabilitation Research and Development Enterprise: The Researchers' Perspective (Changed from Former Title)

PI: Dr. Corey L. Moore, CRC

Dear Respondent,

Thank you for agreeing to participate in our research project. This research will help us to identify barriers that impede Historically Black College/University (HBCU) housed rehabilitation educators from engaging optimally in research and grantsmanship. The study is expected to provide HBCU administrators, Federal funding entities [e.g., National Institute on Disability and Rehabilitation Research (NIDRR), Rehabilitation Services Administration (RSA)] and HBCU housed researchers with useful strategies for enhancing HBCU generated disability and rehabilitation research. The results of this project will be published in a monograph/technical report and in a professional journal in rehabilitation counseling or disability studies.

This project consists of 3 distinct survey rounds. Round 1 of the survey includes a demographic section, 12 research and grantsmanship sections (A-K) and the Delphi section (qualitative). Rounds 2 and 3 of the survey will be accomplished subsequent to the collection of all Round 1 data. All questionnaires will allow us to obtain information on your perception of research/grantsmanship barriers.

You will need to complete all 3 survey rounds on-line. Please see an attached example of the Psychdata survey login process. The surveys will be located at the following website:

http://www.psychdata.com. The Round 1 survey number is: (omitted) and the Password is (omitted).

Steps to Complete On-line Survey

Step 1: Go to website: http://www.psychdata.com.
Step 2: Enter survey number: (omitted)

Step 3: Enter survey password: (omitted)
Step 4: Select participant choice (if first time responding, choose "new participants"- that will prompt registration. If returning after saving responses, you would select "returning participants"- please remember your personalized password)
Step 5: Complete registration
Step 6: Complete survey

The initial survey (Round 1) is available **on February 12, 2010 (Friday)**. Please access the on-line survey and complete in its entirety by **March 5, 2010**. Please be as thorough and specific as possible when responding to all open-ended questions, especially the Delphi items. The survey should take approximately 60-90 minutes to complete. I strongly recommend that you complete the survey at one sitting, without saving responses. However, you have the option of saving your responses and completing it at a later date. All questions with asterisks require a response, and you will not be able to proceed without responding to these questions.
Please be assured that we will use your name only to verify your participation. In short your responses will be anonymous and we will not be able to tie any particular response with you or any other respondent. As noted in previous correspondence, you will be able to submit your invoice along with the purchase order you have already received after completing Round 3 of the survey.

A summary of our findings will be reflected in the research monograph. A copy will be sent to you upon completion of the research project. To receive a copy, you may contact me at

Langston University
Department of Rehabilitation Counseling and Disability Studies
4205 N. Lincoln Blvd.
Oklahoma City, Oklahoma 73105
(405) 962-1670 (office)
(405) 962-1638 (fax)

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me at (405) 962-1670 or clmoore@lunet.edu. This project has been approved by the Institutional Review Board (IRB) at Langston University.

If you have any questions about your rights as a research study participant, you may contact the chair of the IRB, Dr. Yvonne Montgomery at (405) 466-3242 or ykmontgomery@lunet.edu. Once again, thank you for agreeing to participate in the study.

Sincerely,

Corey L. Moore, Rh.D., CRC
Delta Sigma Theta Sorority, Inc. Distinguished Professor
Endowed Chair

Principal Investigator: Dr. Corey L. Moore

Your Name _____

     (NOTE: <u>Please be assured that we will use your name ONLY to verify your participation.</u> All input revealed to panelists in the Delphi rounds will be completely anonymous.)

<u>Demographic Information:</u>

1. Gender (please circle):   Male   Female

2. Age: _____

3. Race/ethnicity (please circle):

     African American
     White/Caucasian
     Asian American
     Latino/Hispanic
     Native American
     Other

4. Disability (please circle): Yes   No

5. Number of Years Teaching in Rehabilitation Education Programs _____

6. Highest Degree Obtained (please circle):

     Terminal Degree (Ph.D., Rh.D., Ed.D)
     Master's Degree

7. Current Academic Rank (please circle)

     Instructor
     Assistant Professor
     Associate Professor
     Professor

8. Current Administrative Rank (please circle)

     No Administrative Rank
     Rehabilitation Education Program Coordinator
     Department Chair

9. Appointment Type (please circle)

     12 Month Appointment
     9 or 10 Month Appointment

10. Annual Salary (12 month appointment faculty only) _____

11. Annual Salary (9 or 10 month appointment faculty only) _____

12. Which of the following basic categories represent your university's Carnegie Classification (categories are based upon Carnegie Classifications of Institutions of Higher Education)? Please check appropriate response.

     _____Doctorate-granting university (i.e., institutions that award at least 20 doctorates)
     _____Master's colleges and universities (i.e., institutions awarding at least 50 master's degrees but fewer than 20 doctorates).
     _____Baccalaureate College (i.e., bachelor's degree account for at least 10% of all undergraduate degrees and fewer than 50 master's degrees are awarded.

* Research productivity and grantsmanship sections (A-K) omitted*

INPUT FORM: ROUND 1

Your Name_____

(NOTE: <u>Please be assured we will use your name ONLY to verify your participation.</u> All input revealed to panelists in the Delphi rounds will be completely anonymous.)

For this Delphi study, please focus on listing your perceptions regarding the barriers that can sometimes hinder HBCU rehabilitation educators from optimally participating in disability and rehabilitation research and grantsmanship.

Think carefully before you make your initial input. The quality of your input will determine the quality of the study. List specific barriers that you believe will be most applicable. Avoid generalizations and ill-defined "wish lists." Give SPECIFIC barriers -things that hinder faculty from engaging optimally in research and grantsmanship at HBCUs.

List your barriers within the categories below. These categories are provided to augment the thinking process, therefore, please do not let your responses be limited by these categories. Use additional space if needed.

Category 1. Teaching/Instruction Commitments

Category 2. University/Professional/Community Service Commitments

Category 3. Student Advisement Commitments

Category 4. Administrative or Related Duties (e.g., Coordinators and Chairpersons)

Category 5. Office of Sponsored Programs

Category 6. Administrative Culture and Incentives

Category 7. Facilities (e.g., Technology/Equipment) and Human Resources (e.g., Research Assistant)

Category 8. Faculty Research Mentors

Category 9. Faculty Members' Access to Study Participants (i.e., Subjects)/Extant Databases

Category 10. Research Collaborations Between HBCUs and Traditionally White Institutions

Category 11. Grant Review Process (e.g., NIDRR, RSA, or NIH)

Category 12. Grant-Writing and Research Capacity Building Trainings

Category 13. Federal Research Entity Expectations For HBCU Proposal Success- NIDRR/RSA/NIH

Category 14. Other/Miscellaneous

APPENDIX D

Round Two Instructions and Survey

Barriers to Engaging in Research and Grantsmanship

Study Title: Barriers to the Participation of Historically Black Colleges and Universities in the Federal Disability and Rehabilitation Research and Development Enterprise: The Researchers' Perspective (Changed from Former Title)

PI: Dr. Corey L. Moore, CRC

Dear Respondent,

Thank you for participating in Round 2 of the Delphi Study. This research will help us to identify barriers that impede Historically Black College/University (HBCU) housed rehabilitation educators from engaging optimally in research and grantsmanship. The study is expected to provide HBCU administrators, Federal funding entities [e.g., National Institute on Disability and Rehabilitation Research (NIDRR), Rehabilitation Services Administration (RSA)] and HBCU housed researchers with useful strategies for enhancing HBCU generated disability and rehabilitation research. The results of this project will be published in a monograph/technical report and in a professional journal in rehabilitation counseling or disability studies.

Please be advised that Round 1 Delphi Survey data has been collected and analyzed. We are now at the Round 2 phase of the Delphi Study. **Round 2 of the Delphi study is currently available on the psychdata on-line website (psychdata.com).** Please access the on-line survey and complete in its entirety by **May 7, 2010**. All questionnaires will allow us to obtain information on your perception of research/grantsmanship barriers.

To complete the Round 3 survey on-line, please see an attached example of the Psychdata survey login process. The surveys will be located at the following website:

http://www.psychdata.com. The Round 3 survey number is: (omitted) and the Password is (omitted).

Steps to Complete On-line Survey

Step 1: Go to website: http://www.psychdata.com.

Step 2: Enter survey number: (omitted)
Step 3: Enter survey password: (omitted)
Step 4: Enter specific self-made password (should have from previous Round 1).
Step 5: Complete registration
Step 6: Start on-line survey

The survey should take approximately 60-90 minutes to complete. I strongly recommend that you complete the survey at one sitting, without saving responses. However, you have the option of saving your responses and completing it at a later date. All questions with asterisk require a response, and you will not be able to proceed without responding to these questions.

Please be assured that we will use your name only to verify your participation. In short, your responses will be anonymous and we will not be able to tie any particular response with you or any other respondent.

A summary of our findings will be reflected in the research monograph. A copy will be sent to you upon completion of the research project. To receive a copy, you may contact me at

<div align="center">
Langston University
Department of Rehabilitation Counseling and Disability Studies
4205 N. Lincoln Blvd.
Oklahoma City, Oklahoma 73105
(405) 962-1670 (office)
(405) 962-1638 (fax)
</div>

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me at (405) 962-1670 or clmoore@lunet.edu or Mr. Andre Washington at (405) 521-1381 or alwashington@lunet.edu. This project has been approved by the Institutional Review Board (IRB) at Langston University.

If you have any questions about your rights as a research study participant, you may contact the chair of the IRB, Dr. Yvonne Montgomery at (405) 466-3242 or ykmontgomery@lunet.edu. Once again, thank you for agreeing to participate in the study.

Honorarium Payment
Once you complete Round 3 of the Delphi study survey, we will begin to process your paperwork for payment in the amount of $500. You should expect your check in the amount of $500 by July 30, 2010. If you have not received your check by this date, please contact me (Corey Moore- Principal Investigator) at your convenience.

Sincerely,

Corey L. Moore, Rh.D., CRC
Delta Sigma Theta Sorority, Inc. Distinguished Professor
Endowed Chair

Principal Investigator: Corey L. Moore

FEEDBACK FORM: ROUND 1 AND INPUT FORM: ROUND 2

Your Name_____

(NOTE: <u>Please be assured we will use your name ONLY to verify your participation.</u> All input revealed to panelists in the Delphi rounds will be completely anonymous.)

This round of our Delphi will require you to analyze and evaluate the comments made by the Delphi panel in Round 1. After your thoughtful analysis, you will then make some choices from among the numerous ideas offered in Round 1 and rank order and rate your selections.

To make your Round 2 input, you should carefully study the feedback from Round 1. This is in the form of a list that summarizes the many responses you and the other panelists offered as quality indicators.

First, rate the <u>categories </u>(in the highlighted box) and the <u>items within category</u> (below the highlighted box) using the following scale:

1 – not important
2 – somewhat important
3 – moderately important
4 – important
5 – very important

You MAY NOT introduce any new ideas at this point! However, you are encouraged to make comments to explain answers.

Second, rank order the <u>categories </u>(in the highlighted box) and the <u>items within each category</u> (below the highlighted box) in descending order, with your first choice listed as rank 1 and your *nth* choice listed as rank *n*.

Category Rating for Importance (1 – 5)   (____)

Category Ranking for Importance (1 – 13) (____)
Note: Total of 13 different categories- rank 13 categories 1-13 in descending order.

Item Number and Name (numbers **do not** imply rank order)	Frequency Listed by Panel (*f*) in Round 1	Item Rating for Importance within Category	Item Ranking for Importance within Category
1 RESEARCHER	RESEARCHER	Panelist	Panelist
2 PROVIDES	PROVIDES	Provides	Provides
3 THIS	THIS	This	This
4 INFORMATION	INFORMATION	Information	Information
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Comments:

APPENDIX E

Round Three Instructions and Survey

Barriers to Engaging in Research and Grantsmanship

Study Title: Barriers to the Participation of Historically Black Colleges and Universities in the Federal Disability and Rehabilitation Research and Development Enterprise: The Researchers' Perspective (Changed from Former Title)

PI: Dr. Corey L. Moore, CRC

Dear Respondent,

Thank you for participating in Round 3 of the Delphi Study. This research will help us to identify barriers that impede Historically Black College/University (HBCU) housed rehabilitation educators from engaging optimally in research and grantsmanship. The study is expected to provide HBCU administrators, Federal funding entities [e.g., National Institute on Disability and Rehabilitation Research (NIDRR), Rehabilitation Services Administration (RSA)] and HBCU housed researchers with useful strategies for enhancing HBCU generated disability and rehabilitation research. The results of this project will be published in a monograph/technical report and in a professional journal in rehabilitation counseling or disability studies.

Please be advised that Round 2 Delphi Survey data has been collected and analyzed. We are now at the Round 3 phase of the Delphi Study. **Round 3 of the Delphi study is currently available on the psychdata on-line website (psychdata.com).** Please access the on-line survey and complete in its entirety by **June 25, 2010**. All questionnaires will allow us to obtain information on your perception of research/grantsmanship barriers.

To complete the Round 3 survey on-line, please see an attached example of the Psychdata survey login process. The surveys will be located at the following website:

http://www.psychdata.com. The Round 3 survey number is: (omitted) and the Password is (omitted).

Steps to Complete On-line Survey

Step 1: Go to website: http://www.psychdata.com.

Step 2: Enter survey number: omitted
Step 3: Enter survey password: omitted
Step 4: Enter specific self-made password (should have from previous Round 1 and 2).
Step 5: Complete registration
Step 6: Start on-line survey

The survey should take approximately 60-90 minutes to complete. I strongly recommend that you complete the survey at one sitting, without saving responses. However, you have the option of saving your responses and completing it at a later date. All questions with asterisk require a response, and you will not be able to proceed without responding to these questions.

Please be assured that we will use your name only to verify your participation. In short, your responses will be anonymous and we will not be able to tie any particular response with you or any other respondent.

A summary of our findings will be reflected in the research monograph. A copy will be sent to you upon completion of the research project. To receive a copy, you may contact me at

Langston University
Department of Rehabilitation Counseling and Disability Studies
4205 N. Lincoln Blvd.
Oklahoma City, Oklahoma 73105
(405) 962-1670 (office)
(405) 962-1638 (fax)

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me at (405) 962-1670 or clmoore@lunet.edu or Mr. Andre Washington at (405) 521-1381 or alwashington@lunet.edu. This project has been approved by the Institutional Review Board (IRB) at Langston University.

If you have any questions about your rights as a research study participant, you may contact the chair of the IRB, Dr. Yvonne Montgomery at (405) 466-3242 or ykmontgomery@lunet.edu. Once again, thank you for agreeing to participate in the study.

Honorarium Payment
Once you complete Round 3 of the Delphi study survey, we will begin to process your paperwork for payment in the amount of $500. You should expect your check in the amount of $500 by July 30, 2010. If you have not received your check by this date, please contact me (Corey Moore- Principal Investigator) at your convenience.

Sincerely,

Corey L. Moore, Rh.D., CRC
Delta Sigma Theta Sorority, Inc. Distinguished Professor
Endowed Chair

Principal Investigator: Corey L. Moore
FEEDBACK FORM: ROUND 2
AND INPUT FORM: ROUND 3

Your Name_____

(NOTE: <u>Please be assured we will use your name ONLY to verify your participation.</u> All input revealed to panelists in the Delphi rounds will be completely anonymous.)

This is the final round of the study. In Round 2, you and your fellow panelists rated and ranked barriers to research and grantsmanship participation from the list generated by the panel. For each category, a mean (average) rating of importance was calculated. Also calculated was a total of the category's rankings (ΣRank) and its overall group ranking based on this total.

The tables below also show the panel's top item selections in each category. The items were selected by assigning "rank points" to each item depending upon the number of items in each category as follows:

Rank 1 = 13 points	Rank 8 = 6 points
Rank 2 = 12 points	Rank 9 = 5 points
Rank 3 = 11 points	Rank 10 = 4 points
Rank 4 = 10 points	Rank 11 = 3 points
Rank 5 = 9 points	Rank 12 = 2 points
Rank 6 = 8 points	Rank 13 = 1 point
Rank 7 = 7 points	

The rank points earned by each item were summed to compute a score called "sigma rank points" or ΣRankPoint. Based on their ΣRankPoint scores, the items in each category was ranked from high to low and assigned item numbers corresponding to the ranking of their scores. Thus, item number 1 became the item with the highest ΣRankPoint score and the highest (#1) rank order.

The tables below show the Round 2 results, including category and item rankings, ΣRank and ΣRankPoint scores for the items retained for further consideration in Round 3.

To make your input for Round 3, study the results of Round 2 carefully. Then for the final time, rate the <u>categories</u> and the items within each category using the following scale:

1 – not important
2 – somewhat important
3 – moderately important
4 – important
5 – very important

You MAY NOT introduce any new ideas at this point! However, you are encouraged to make comments to explain answers.

Second, rank order the <u>categories</u> and the <u>items within each category</u> in descending order, with your first choice listed as rank 1 and your *nth* choice listed as rank *n*.

<u>Do Not assign any tied ranks.</u>

Category Rating for Importance (1 – 5)　　(＿＿＿)

Category Ranking for Importance (1 – 13) (＿＿＿)
Note: Total of 13 different categories- rank 13 categories 1-13 in descending order.

Item and Round 2 Overall Rank	Round 2 ΣRankPoint	Round 2 Mean Rating for Importance	Round 3 Importance of Rating (1-5)	Round 3 Ranking
1 RESEARCHER PROVIDES	THIS	INFORMATION	PANELIST PROVIDES	PANELIST PROVIDES
2				
3				
4				
5				
6				
7				
8				
9				
10				

Comments: