

Alliance for Graduate Education and the Professoriate

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The Alliance for Graduate Education and the Professoriate (AGEP) at Michigan State University (MSU) is a National Science Foundation program that supports the recruitment, retention, and graduation of U.S. students in doctoral programs of the natural and social sciences, mathematics, and engineering. The focus of AGEP places special emphasis on a fully inclusive recruitment and development of students from U.S. population groups historically underrepresented in fields of the sciences, technology, engineering and mathematics (STEM); and the social, behavioral, and economic (SBE) sciences.

The goal of AGEP is to promote changes that transform U. S. universities to embrace the responsibility of substantially increasing the number of underrepresented U. S. minorities who will enter the professoriate in STEM and SBE disciplines. Graduate students and faculty who participate in building the AGEP Community at MSU will provide a key to changing the culture of U. S. colleges and universities to embrace building world-class STEM and SBE faculties who fully reflect the diversity in race, gender, culture and intellectual talent of the U.S. population. We have a series of events throughout the year, including monthly community meetings, faculty partnership visits, a spring conference, and student outreach. You can follow us on LinkedIn.com and Facebook and request to be added to our ANGEL group by emailing us at msuagep@grd.msu.edu.



Alliance for Graduate Education and the Professoriate

Science Today Bulletin



A Letter From the Editors

Dear 'Science Today' Bulletin Readers,

Welcome to the second volume of the Michigan State University Alliance for Graduate Education and the Professoriate "Science Today" Bulletin! The purpose of this peer-reviewed scholarly publication is to highlight rigorous, innovative scholarly research conducted by members of the MSU AGEF community. We are proud to present this diverse combination of interdisciplinary scholarship by graduate students, ranging from literacy to cognitive science, who conduct research that contribute to the betterment of our society. Within this bulletin you will find the complex and innovative research of AGEF graduate students crafted into concise yet specific briefs written for a broad audience. We would like to extend our sincerest gratitude to the MSU Graduate School, the MSU AGEF community, our program manager Steven Thomas, graduate students who chose to share their research with us and our readers in are around MSU. This project could not have happened without the support that we received from each of you. We hope that you enjoy reading this edition of the bulletin and for those new to AGEF we encourage you to learn more about our program.

Sincerely,

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Table of Contents

About AGEP	2
------------------	---

A Letter From the Editors	3
---------------------------------	---

Editorial Board and Reviewers	4
-------------------------------------	---

Research Briefs

**Factors associated with persistent enteric
bacteria molecular marker concentrations in
water quality samples and Great Lakes
sediment cores.**

Yolanda Brooks, Melissa M. Baustian, Mark

Baskaran, Nathaniel Ostrom, Asli Aslan, Sushil

Tamrakar, Bharathi Murali, Jade Mitchell, Joan Rose.....8

**Androgen Receptor-Dependent Regulation of
Integrin $\alpha 6 \beta 1$, Bcl-xL, Src, Survival, and
invasion of Prostate Tumor Cells in vitro**

Jelani C. Zarif, Laura E. Lamb and Cindy K. Mirati.....10

Juvenile Offenders: Does being on probation lower their risk to reoffend?	
Ashley Barnes and William Davidson, II	13
Exploring the roles of out of school programs in the lives of African American Youth	
Theda Gibbs.....	16
(Re)Creating Unbelonging in Online Comments: The Case of Rhonda Lee and Quvenzhane Wallis	
Leigh-Anne Goins.....	20
The Sound of Blackness: An Examination of Voice in Writing	
Shenika Hankerson	24
An Exploration of the Association between Social Determinants and White Racial Identity	
S. Mo	27
Engaging Parents in School Reform in Detroit	
Ashley Johnson	30
Neuropsychiatric Symptoms and Obesity in Mild Cognitive Impairment	
Ashley Hannah	33
<hr/>	
AGEP Community Member Testimonials	36
Contact Information	38

Factors associated with persistent enteric bacteria molecular marker concentrations in water quality samples and Great Lakes sediment cores.

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Key Words: Enteric bacteria, water quality, persistence, sediment, great lakes, fecal pollution

Objective/Background

Monitoring and regulating fecal pollution has led to a decrease in waterborne illness incidence in the last century. However, such monitoring does not consistently prevent waterborne illness risk due to long term persistent fecal indicator bacteria (FIB) and fecal associated (enteric) bacteria in the environment. In addition, it does not take into account the factors that are associated with populations of short term and long term persistent fecal indicator bacteria. Researchers have determined that temperature, sunlight, and organic content affect fecal indicator persistence in the water column and sediments (Haller, Amedegnato, Poté, & Wildi, 2009; Okabe & Shimazu, 2007). Such factors affect how long fecal indicators and, possibly, pathogens remain in the environment. Therefore, this research's purpose is to investigate the factors that are associated with persistent enteric bacteria molecular marker concentrations in various water quality sample storage schemes and sediment cores from the Great Lakes basin.

Study Design/Methods

Concentrations of enteric bacteria genetic markers from *Escherichia coli* uidA (EC-uidA), enterococci 23S rRNA (ENT-23) and *Bacteroides thetaiotaomicron* alpha-mannanase (BT-am) genes were measured using qPCR methods in this project's three experiments. The first experiment measured and modeled the persistence of the above genetic markers in water quality samples seeded with 10% (vol/vol) raw sewage stored at 4°, 27° and 37°C in

liquid suspension and on a solid matrix for up to 28 days. The second experiment measured and modeled persistence of the three genetic markers at 4°C in water quality samples seeded with 10% (vol/vol) raw sewage in liquid suspension and a solid matrix for up to one year.

The third experiment measured naturally occurring EC-uidA and ENT-23 in sediment cores from Lake St. Clair and the Clinton River. Linear regression analysis was used in each experiment to determine how the various external factors were associated with enteric bacteria genetic marker persistence. The investigated external factors in the first and second experiments included: storage duration, storage temperature (first experiment only), storage condition (liquid suspension or solid matrix), indicator species and DNA extraction method. The factors in the third experiment included: anthropogenic attributes (watershed population and sediment nutrient loading measured from phosphorus, nitrogen, carbon concentrations in the sediment core layers), indicator species concentrations in the sediment core layers (ENT-23 and EC-uidA), climate variables (yearly cumulative precipitation and average yearly air temperature) and sediment core location.

Impact

This study determined that the general order of least to most persistent indicator in water quality samples stored for 28 days and 1 year were BT-am, EC-uidA, and ENT-23. The water samples stored for 28 days had various decay rates, with T90 values (time for 90% reduction) from 1.0029 days (BT-am at 37°C in liquid suspension) to greater than 28 days (ENT-23 and EC-uidA on solid matrix at all temperatures). Genetic marker persistence in water quality samples stored for up to 28 days was significantly associated to storage duration ($p < 0.001$) and storage condition ($p < 0.001$). Results are being gathered from the second experiment, which measured genetic marker persistence in water quality samples stored at 4°C for one year and no statistical conclusion can be made as of yet. Sediment deposited +200 years ago in the Lake St. Clair watershed, had quantifiable ENT-23 and EC-uidA

concentrations. Genetic marker persistence from enteric bacteria in Lake St. Clair watershed sediment cores was significantly associated with nutrient loading ($p < 0.001$), sediment core location ($p < 0.001$) and indicator species ($p < 0.001$).

This research is one of the first to measure and compare persistent enteric bacteria molecular marker concentrations in water quality samples in various storage conditions. This project is also one of the first to use qPCR methodology to measure and associate historic fecal pollution to anthropogenic activities and climate variables. The results from this study and further research in this area will pave the way for improved water pollution monitoring and better protection of public health. It will also enrich the understanding of how climate and anthropogenic factors interact with pollution in the Great Lakes watershed.

Focus Area/Broader Implications

Improvements in water quality sample storage can help optimize and standardize storage of FIB enumeration methods that offer faster and more reliable protection against waterborne illness risk. Historical watershed health investigations can provide evidence to the factors that have deteriorated historical watershed health and water quality. Further, better understanding of water quality and analysis of the efficiency of previous storage methods will aid policy makers as they determine necessary water management resources.

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Androgen Receptor-Dependent Regulation of Integrin $\alpha 6\beta 1$, Bcl-xL, Src, Survival, and Invasion of Prostate Tumor Cells in vitro

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Keywords: Androgen Receptor, castration-resistant prostate cancer, metastasis, integrin $\alpha 6\beta 1$

Objective/Background

Androgen receptor (AR) is a member of the nuclear steroid receptor family and binds the steroid hormone androgen. AR expression is either increased or mutated in aggressive and untreatable (metastatic) prostate cancers. In metastatic diseases with the over-expression of AR, tumor cells are often non-responsive to androgen at its physiological levels as well as non-responsive to androgen deprivation therapy. In both cases the disease is incurable. Also found to be up regulated clinically in prostate cancer is integrin $\alpha 6\beta 1$ and studies have suggested that AR may regulate integrins (Whitacre et al., 2002; Evangelou et al., 2002; Bonaccorosi et al., 2000). We have demonstrated that stable expression of AR into human prostate cells, PC3, leads to an androgen-independent increase in $\alpha 6\beta 1$ integrin on the cells surface, which is responsible for increasing the integrin Bcl-xL and promoting survival (Lamb et al., 2010). This occurs independently of Phosphatidylinositol-3 Kinase PI-3K, a lipid kinase in which prostate tumors rely on for survival (Eduick et al., 2007). AR expression into PC3 cells also results in an androgen-independent increase in Src activity and enhances migration of prostate cancer cells. Correspondingly, AR also enhances invasive cell movement, and causes dramatic changes in cell shape; all of which are hallmarks of aggressive and metastatic disease which ultimately leads to patient death. Based on these data, we hypothesize that AR, acting through integrin $\alpha 6\beta 1$ and Src, is a key regulator of prostate tumor survival and progression to metastasis.

To test our overarching hypothesis and research question, the role of AR signaling in integrin-mediated survival and metastasis in vitro, we will address the following aims:

- I. Determine how AR-expressing prostate cancer cells with increased levels of integrin $\alpha 6\beta 1$ and Src regulate metastatic properties in vitro.
- II. Determine the functional relationship between AR and Src during metastasis in vivo.
- III. Determine the importance of AR and integrin $\alpha 6\beta 1$ -mediated survival of prostate cancer in vivo.

The objective of these studies is to elucidate how AR signaling and integrin-mediated survival pathways regulate tumor formation and invasion both in vitro and in vivo. The specific aims of this research are 1) to determine how the interaction of prostate cancer cells with extracellular matrix and AR regulates cell invasiveness; 2) to demonstrate the importance of AR, Src, and integrin $\alpha 6$ for metastasis in vivo; and 3) to demonstrate the importance of AR and integrin-mediated survival of prostate cancer in vivo.

Study Design/Methods

To test my hypotheses, I will use small interfering RNA (siRNA) that targets AR, Src and $\alpha 6$ integrin and measure tumor invasion in the absence of growth factors and sex steroid, DHT. I will also use AR mutants defective in transcriptional activation or defective in Src binding and monitor their ability to affect tumor invasion. To get a better understanding of how the changes observed in vitro apply to the disease in vivo, corresponding experiments will use xenografts. PC3-AR cells expressing single tet-inducible shRNA against AR, Src, or $\alpha 6$ integrin, or cells expressing AR mutants will be evaluated in vivo for their ability to enhance androgen-independent metastasis. PC3-AR cells expressing shRNA against AR, Bcl-xL, or $\alpha 6$ integrin, or cells expressing AR mutants will be evaluated for their ability to survive and grow in an androgen-independent manner in the presence of PI-3K inhibitors.

Impact

We have developed an androgen-independent metastatic prostate cancer model that mimics clinical events seen in patients, i.e. over expressed wild type AR and elevated expression of $\alpha 6\beta 1$ integrin. In this model AR confers enhanced survival and migratory properties that we hypothesize are dependent on $\alpha 6\beta 1$ integrin. This study will test our hypothesis in vivo and will reveal the mechanisms by which AR, Src, $\alpha 6\beta 1$ integrin, and Bcl-xL control metastatic prostate cancer progression and survival. This information will be valuable for identifying potential therapeutic targets of metastatic prostate cancer.

Focus Area/Broader Implications

The proposed studies focus on tumor biology and will yield a better understanding of how intracellular signaling cascades in prostate tumor cells initiated by AR regulates metastasis in vitro and in vivo.

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Juvenile Offenders: Does being on probation lower their risk to reoffend?

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Key Words: Risk Assessment, Juvenile Recidivism, YLS/CMI

Objective/Background

Court officials use risk assessment scales to predict future crime, identify youth needs, and inform case planning. Currently, the literature shows that juveniles are typically assessed when they enter court jurisdiction. However, there is a paucity of research on post court involvement assessment. Of the research reviewed for the current study, only two studies explored the feasibility of assessing risk over time (Schlager & Pacheco, 2011; Vose et al., 2009). These studies focused on change in risk scores upon entering and exiting the criminal justice system. While Schlager & Pacheco's adult offenders were re-assessed six months after the initial assessment, the Vose and colleagues sample was re-assessed an average of 12 months following the initial assessment. As a result of court supervision, there were reductions in risk assessment scores from the time they started probation (Time 1) to the time they completed probation (Time 2) in both studies. One of the studies demonstrated that the relationship between risk score and reoffending was stronger for the Time 2 assessment (Vose et al., 2009). Considering that the magnitude of the relationship between risk score and reoffending increased from Time 1 to Time 2, this may provide evidence of the impact of court supervision. Currently, the literature has not investigated change in risk assessment scores as a result of court supervision for juvenile offenders. This research seeks to fill a gap in the literature by investigating whether risk assessment scores decrease after participating in probation for young offenders. Thus my central research question is, do initial and exit risk scores differ in mean level and variability among juvenile offenders?

Study Design/Methods

This quantitative research project examines change in risk score for two time points

with a widely used risk assessment; The Youth Level of Service/Case Management Inventory (YLS/CMI). The YLS/CMI is a 42-item instrument that examines eight criminal risk domains that predict juvenile reoffending. Domains include: Prior Offenses, Education, Peers, Attitudes, Behavior, Substance Abuse, Leisure Activity and Family. Each item is scored dichotomously (yes or no) indicating whether or not risk is present. The items are totaled and the composite score is translated into a level of risk; low, moderate, high, and very high (Flores, et al., 2003). The sample was composed of 211 juvenile probationers that had been charged with a crime but had not yet reached their 18th birthday. The average age was 14.4 (range 9-17) with 29% females and 60% non-White youth.

Impact

A paired-samples t-test was conducted to examine mean differences between entry and exit scores. On average, the mean of the composite risk scores decreased by 5.4 between Time 1 and Time 2. The analysis indicated that the entry and exit composite risk scores were significantly different from each other ($t(210) = 11.53, p < .05$, Cohen's $d = .77$). In addition, there was no significant differences in variability between the entry and exit risk assessment scores $t(209) = 1.35, p > .05$.

Focus Area/Broader Implications

This study investigated whether initial and exit risk assessment scores differed in mean level and variability for a sample of juvenile offenders. As expected, mean level risk scores significantly decreased from entry to upon exiting the court and there was no significant difference in variability between the initial and exit scores. The use of reassessment risk scores permit the use of improved statistical methods, their use could also improve predictive validity (Andrews et al., 2006; Baglivio & Jackowski, 2012). Instead of limiting investigations solely to change in composite risk scores, future research should examine changes across

YLS/CMI subscales as each subscale represents a criminogenic need. Exploring changes in criminogenic needs can allow researchers and practitioners to identify which areas are being most impacted by court supervision.

Further, in order for future research to identify the impact of supervision, court practitioners must provide systematic information on the type of programming that youth receive related to the eight criminal risk domains of the YLS/CMI. The amount of time youth spend in programs, and the number of programs youth are involved in at any given time may add further evidence for the changes seen in exit risk assessments.

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EXPLORING THE ROLE OF OUT OF SCHOOL PROGRAMS IN THE LIVES OF AFRICAN AMERICAN YOUTH

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Key Words: African American Youth, Literacy Support, Out of School Programs, Pre-College Programs, Community Based Organizations, Affirmation of Youth Voice

Objective/Background

In an effort to meet the literacy needs of all students, it is important that they receive adequate literacy support both in and outside of the classroom. While students can receive these skills and strategies in school and at home, it is necessary to also consider the role that support programs such as pre-college programs serve in strengthening their literacy skills. These support programs can provide benefits to all students, but are particularly important in the lives of urban youth of color, who like all other students are beautiful and brilliant, yet are too often educated in educational spaces that struggle to help them actualize academic success. Pre-college programs can be seen as additional sites of opportunity through which educators can help youth “to acknowledge themselves as thriving, literate, intelligent human beings with important contributions to make” (Greenleaf & Hinchman, 2009). Thus, it is particularly important for support programs that work with all youth to consider the role they serve in improving their educational and literacy outcomes.

While pre-college programs can be very useful in providing and connecting students to important resources, little is known about the type of curricula that are being designed and implemented and the degree to which successful programs contribute to students’ academic achievement (Gullatt & Jan, 2003) and literacy development. Consequently, shared practice and research that contributes to what is known about the design, implementation and support that pre-college programs provide for students is crucial.

The objectives of my study were to expand what we know about out of school programs and how they serve African American middle school youth. The research questions that guided my exploration included:

- (1) What roles do out of school programs serve in the lives of African American youth?
- (2) What type of literacy activities do youth engage in while participating in out of school programs?
- (3) How, if at all, do out of school programs practice culturally relevant pedagogy?
- (4) What are the experiences of African American youth as participants in out of school programs?

Study Design/Methods

I explored the answers to my research questions by engaging in a qualitative case study in partnership with two out of school programs located in Michigan during the summer and fall of 2012. The first site, THRIVE, was a pre-college program sponsored by a large, public university that served predominantly African American, eighth grade students. The second site, the Family Neighborhood Center (FNC), was a community-based organization that served predominately African American students in the fifth-tenth grades. Both sites provided programming for students throughout the academic year and also during the summer.

The primary analysis consisted of transcripts from focus groups with youth who participated in the summer program, samples of students' work collected during the summer and fall, and observations from the summer and fall sessions. Additionally, interviews with program staff provided a more accurate description of the programs and the workshops that were provided for the students. The aim of the focus groups was to gather additional

information about students' experiences as participants in the program. Many of the questions focused on understanding the programmatic elements such as mentoring relationships with staff, exposure to college campuses, and academic and social development workshops that students perceived as beneficial.

Impact

In analyzing the data, significant themes that emerged from the study included: (1) the provision of opportunities for youth to engage in literacy activities that served as counternarratives, (2) the affirmation and centering of students' voices as urban youth of color, (3) the provision of safe spaces for youth, and (4) connecting youth to caring adults. These themes are significant given the need for educational spaces that are empowering for all youth, particularly youth of color. Affirming and centering students' voices is essential in providing spaces that help students to discuss, write about, and experience *counternarratives*. Solorzano and Yosso (2009) remind us that counternarratives are the stories of individuals and communities that are missing in the dominant discourse. In the context of this particular study, the counternarratives that students formed were useful in illuminating the lived experiences of African American youth whose experiences and voices are often absent or misrepresented in dominant narratives. In the THRIVE program, students were provided the space to write narratives in the form of community action plans for improving their schools and communities and were also able to write and perform songs that highlighted their educational and career aspirations. At the FNC, students were positioned as youth leaders who utilized creative writing to develop and perform a theme song based on their experiences at the FNC. These examples from the data have implications for what educators can do in both in and out of school spaces to connect youth of color to meaningful literacy practices that acknowledge them as students with valuable

contributions to make.

Focus Area/Broader Implications

Engaging in future research in this area can strengthen the capacity of out of school programs in providing support for African American youth. This study also encourages us to consider the significance of both in and out of school spaces as spaces that can effectively contribute to the academic and social development of African American middle school youth. Out of school spaces including those that exist in pre-college programs and community-based organizations also represent spaces where youth can engage in meaningful literacy practices. It is my hope that both in and out school spaces can continue to strengthen their partnerships in an effort to create environments for urban youth of color that are not only educative, but are also supportive, affirming, and empowering.

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(Re)Creating Unbelonging in Online Comments: The Case of Rhonda Lee and Quvenzhané Wallis

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Department of Sociology

Key Words: Black Feminism, Post-Racialism, Racism, Sexism, Social Media, Online Comments

Objective/Background

This paper begins from the supposition that discourses surrounding Black femininity and Black women's bodies often rely on historical narratives and intersectional ideologies –interwoven beliefs specific to groups, but not essentialized– creating particular and controlled narratives. Existing ideologies surrounding Black women's bodies and Black femininities are hypercritical and define Black women as angry, emasculating, inhumanly strong, as welfare queens and jezebels (Beauboeuf-Lafontant, 2009; Christensen and Siim, 2010; Collins, 2000; Harris-Perry, 2011). Racist and sexist narratives produce exclusionary discourses that have distinctly negative effects: they restrict the opportunity for Black women to be seen as 'moral equals' worthy of equitable "social and political recognition" (Somers, 2008, p. 6), and thus restrict access to social citizenship. In addition to Somers, my theoretical frame draws from Harris-Perry's frame the *crooked room*. Black women experience the feeling of being in a crooked room –off kilter, uneasy, imbalanced–because of racist and sexist interactions.

Harris-Perry, Somers, Beauboeuf-Lafontant and others studying racism and sexism center their work in offline spaces –face-to-face interactions, or individual and group interactions with structures, laws, and policies. The analysis of online comments, however, is centered in online spaces, that are mobile and diffuse; where racist and sexist narratives

occur at rapid speed, and do not require active or chosen engagement. Further complicating the analysis of racism and sexism on Black women's lives is the illusory belief that America is a post-racial society –race and racism have ceased to exist (Daniels, 2009; Ditomaso, 2013; Hughey and Daniels, 2013). When engaged in online spaces, post-racial or veiled racist and sexist comments create unremitting narratives of exclusion (Cho, 2009; Teasley and Ikard, 2010). Taking into account the mobile, fluid, and diffuse nature of the Internet, I extend Harris-Perry's construct to *crooked spaces*.

To theorize the ways discourses that veil racism and sexism, recreating crooked spaces, I examined online comments in response to a tweet by an The Onion staffer, "Everyone else seems afraid to say it, but that Quvenzhané Wallis is kind of a cunt, right?" The tweet surrounded Quvenzhané Wallis, a then 9-year old girl, who starred in the movie *Beasts of the Southern Wild*. Quvenzhané, an African American girl was denied innocence and described using racist and sexist beliefs –the construction of Black girl's and women's bodies allowed the possibility for being a 'cunt' to be satirical.

Study/Design Methods

I engaged a reflexive process that engages Black feminism and critical discourse analysis, connecting experiential knowledge, racism and sexism, and structures of exclusion to ascertain patterns individuals use in post-racial comments to pathologize Black women. I analyzed 1,000 online comments for uses of post-racialism. For this paper, I defined post-racialism as engagement with overtly sexist but subtly racist language, or subtly sexist and racist language. This construction resulted in 300 comments that explicitly used post-racial discourses, with 190 comments denying the interactive affects of racism and sexism. Narratives that acknowledged the effects of sexism, while denying the impact of racism accounted for 60 comments. For instance, these narratives argued the comment was

not about race; instead, it was a matter of sexism and that if had Quvenzhane's body been white, the tweet would still occur.

Impact

Whether comments engage explicitly with sexism, denying racism, or deny the effects of racism and sexism they maintain a discourse where Black women's bodies do not belong, where Black femininities are not worthy of outrage. Discourses that uphold the belief that racism and sexism do not interact to create particular narratives deny the existence and effects of crooked spaces.

Focus Area/Broader Implications

The effects of these disembodied discourses require further study and new frameworks that take account of socio-historical processes of oppression and the hyper-speed rate of the Internet. Additional research on the ways in which individuals engage racist and sexist narratives, masked within seemingly non-racist and/or sexist language, and the effects on Black women's online and offline lives is required.

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The Sound of Blackness: An Examination of Voice in Writing

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Department of Writing Rhetoric and American Cultures

Key Words: Voice, Writing, Composition Studies, African American, Narrative Interviews

Objective/Background

Voice, an author's distinctive style or expression, became a pivotal point of discussion in composition studies around 1960. During this time advocates and critics expressed their enthusiasm and concern regarding the notion of voice in writing. Lately, however, arguments about voice have been MIA (missing in action), and today, writers in *College Composition and Communication (CCC)* and *College English* are arguing for everything but voice, although, as composition scholar Peter Elbow (2007) indicates, "The concept of voice... is alive in our [composition] classrooms" (p.169).

The word "voice" can be found in composition curriculums, learning outcome statements, and textbooks. However, as Elbow (2007) states, "no one" in the field of composition "comes forward any more to argue for it or even to explore very seriously why it's so alive" (p. 171). In this paper, I attempt to do both—argue for voice while exploring its presence in composition by examining the ways in which Aaron (pseudonym), a young African American male from inner-city Detroit, MI, engages with the concept of voice at home and at school—in specific, in a first-year composition course at a Midwestern university.

Study Design/Methods

For this study, content from one first-year composition course was examined; specifically, content from a Learning Memoir assignment. The Learning Memoir assignment asked students to "reflect on a learning-related event." It also asked students to consider "voice" in writing. Ultimately, the Learning Memoir assignment allowed for an in-depth

examination into how voice gets (de)centralized from a student and instructor perspective.

Thus the author examined the following content:

- The Instructor's Assignment Sheet
- Aaron's Final Draft Essay
- The Instructor's Feedback to Aaron's Essay

A narrative interview was used for content analysis purposes. Narrative interviews (a form of an unstructured interview) allow participants to recount life experiences. They also help researchers understand the meaning participants "attach to their experiences" (Elliot, 2011, p. 17). Furthermore, longitudinal researcher Jane Elliot (2011) states, "interviews that attend to individuals' narratives...produce data that are more accurate, truthful, or trustworthy than structured interviews that ask each respondent a standardized set of questions" (p. 23).

Impact

The instructor's assignment sheet for the Learning Memoir assignment was telling. The instructor asked students to consider "voice" for this assignment; however, the instructor also asked students to engage with academic language as well. These areas (on voice and academic language) served as context cues for Aaron. Though Aaron wanted to use his "own words...own experiences" throughout his essay, he felt that due to the academic language requirement, he wouldn't be able to do so successfully. Further, as a note, Aaron defines voice as, "using my own words...own experience." Thus when Aaron sees the word "voice," he sees what rhetorician and compositionist Jacqueline Jones Royster (1996) calls "a world of symbols, sound, and sense". In fact, as Aaron indicated in the narrative interview, when he sees the word "voice" in its written context, he more than often thinks about voice in its "home language" context—and for Aaron, that is an extension of African American Language. Aaron's perception certainly is not abnormal. Literacy and language scholars Anne Haas Dyson and

Geneva Smitherman (2009) forward a similar vision—calling writing, “a cultural extension of speech”. Only a small paragraph of Aaron’s four-page essay contained what he considered “his voice”. When Aaron did use his “own words...own experiences” (i.e., his own voice) in this paragraph, he received slight criticism from the instructor for doing so often in the form of “slang—avoid this”.

Focus Area/Broader Implications

Voice can easily be found in composition textbooks, syllabuses, assignment sheets, and learning outcome statements. Thus, I argue, that it is dangerous for composition to proceed in the current manner of neglect by, 1) neglecting to acknowledge that “voice” is alive and well in teaching and learning spaces, and 2) neglecting to acknowledge voice as a characteristic of students home languages. Composition educators must be explicit with what they mean by voice and understand that voice comes in an array of sounds, symbols, and sense. This study has implications beyond the field of composition studies. It has theoretical and pedagogical implications for all fields and disciplines where voice and writing intersect.

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An Exploration of the Association between Social Determinants and White Racial Identity

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Keywords: Racial Identity, Social Determinants

Objective/Background

Racial identity scholars conceptualize racial identity as “the feelings of closeness to similar others in ideas, feelings and thoughts (Broman, Neighbors, and Jackson, 1988). However, this approach is not typically used by racial identity scholars who study white racial identity. Most conceptualizations primarily focus on white racial attitudes as the key component to racial identity (Helms, 1993). Prejudice and discrimination continue to be social problems that interact with racial identity and social statuses. Further, few studies of white racial identity have explored any social determinants that might be related to group identification. To address the lack of scholarship, this research is an investigation of the level of white racial identity as closeness in relation to social determinants (sex, gender, education, age, region, income, political party, and close friend of other race). Specifically, this study addressed the following questions: For those who racially identify as white, are there any significant social factors that demonstrate/indicate strong white racial identity levels? How do white racial identity levels differ by various social determinant groupings?

Study Design/Methods

Using the Michigan State of the State Survey dataset from the Institute for Public Policy and Social Research (Michigan State University), this study focused on white racial identity and analyzed only non-Latino/a whites (N=810 out of the original 1133). For white racial identity level, the mean score is 3.53, (a response between 3 indicates ‘fairly close,’ a 4

'close') with a standard deviation of 0.62. The sample contained 61% females, 61% completed some college, and 57% had a close friend of other races. The mean age was 45.79 years with a standard deviation of 16.50. The mean household income was 7.46 with a standard deviation of 3.44 (a response between 7 indicates '\$35,000-39,999,' 8 - \$40,000-49,000). For region, 13% of the sample lived in Detroit, 7% in the UP, 9% in the North, and 20% in the WC region. The SW, EC, and SE regions have 15%, 16%, 19%, respectively. For political party, 31% were Republican, 21% Democrat, 38% Independent, and 7% Other.

A bivariate and multiple ordinary least squares regressions analyses was conducted for each social determinant in relation to white racial identity. The bivariate regression showed whether each of the determinants significantly predicted the outcome in a one by one relationship. The multiple regressions signified the net effect of each social determinant while controlling for the others. These tests do not signify causality between the variables, only association.

Impact

The results from the regression analyses showed that although sex, gender and age are significant predictors in the bivariate relationships, they become insignificant once the other covariates are controlled. The only significant social determinant considered in this study is party identification, and the results show a significant difference in level of White racial identity between the Republicans and the Democrats, Independents, and Others. Overall, these results reveal that political party differences have an association with levels of white racial identity.

Focus Area/Broader Implications

Future analyses should include a conceptualization of both individual and systematic

factors as it will allow for a more accurate depiction of the ideas and feelings the individual has in relation to a sense of belonging to one's own social group. This study focused on Michigan and provided some insight into the particular social determinants of white racial identity unique to this state. It would also be useful to conduct this study on a national scale for comparison. Studies should utilize larger sample sizes so that wider generalizations can be made. Going forward, white ethnic identities should be studied in addition to race for it may have more impact than white racial identity.

Racial identity has been shown to be significantly associated with and have a major impact on racism and prejudice. Studies have shown that Caucasians who rate lower in their racial identity tend to have more racist reactions and attitudes (Ottavi and Pope-Davis, 1994). When social determinants of racial identity are better understood, then directed steps can be taken towards reducing prejudice within social inequalities. Research aimed toward understanding racial identity development appears to be a promising way to attempt to reduce people's prejudice and racist behavior. This should better inform policies and procedures around identity awareness, achievement, and affirmation.

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Engaging Parents in School Reform in Detroit

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Keywords: Parent involvement, parent engagement, self-efficacy, Excellent Schools Detroit

Objective/Background

Low-income and minority families struggle to meet the demands of traditional parent involvement programs (Lareau, 2003). High levels of parent involvement are related to academic success for students. However, the involvement of parents of ethnically and racially diverse students in their children's schools is persistently low. Finding more inviting and effective means of fostering parent involvement is crucial to changing this pattern. To achieve this, my research explores a novel parent involvement program, Excellent Schools Detroit (ESD). The ESD Program, addresses these issues by using an alternative approach that utilizes school visitations and reviews as a means of empowering, engaging and increasing the educational capacity of parents and community members.

Study Design/Methods

ESD began in 2011 and aims to increase parent and community involvement with Detroit's schools by empowering parents through collective action. ESD trains parents to conduct school visitations and reviews that assess the culture of Detroit schools. The school visitations and reviews are conducted by teams of 4-6 trained parents and community members and are facilitated by team leaders. Information gathered by parents during the visits is aggregated into a school report that includes comments of the overall visit and a final score based on a rubric provided to each team member. The goal of the program is to empower parents and community members to become more involved in their student's education and to demand better schools for their children.

To ascertain if the program empowers parents and community members, this paper asks: How does participation in a parent involvement program influence parents' interest and

sense of efficacy in being involved with their children's schools? Additional sub-questions

Include:

1. How does participation in the program affect parent's comfort and sense of efficacy for interacting with school leaders and teachers in their children's or other local schools?
2. How does participation influence parent's future orientations toward involvement in their children's education and with their children's or other local schools?

I will utilize purposeful sampling methods to identify 8-10 African American parent participants who currently have children in Detroit schools. The study has three sources of data: a brief pre-post efficacy scale survey, pre-post interviews, and observation data of trainings and school visitations. The interviews will be conducted utilizing semi-structured, open-ended questions. The pre-interviews will occur after program training sessions, where parents are recruited, and before active participation in school visitations and reviews. The purpose of the pre-interview is to gather baseline information about their experiences with schools, their interests in being involved with schools and their sense of efficacy when interacting with schools. The post interviews will occur after parents are finished with the program. This will allow participants to reconstruct the details of their experience and encourage parents to reflect on the meaning the experience holds for them. During the interviews, the participants will be asked to complete an efficacy scale survey that will assess their confidence and comfort in interacting with schools. The conceptual framework examines parent's interest, knowledge and sense of efficacy for being involved with their children's education. A parent's personal sense of efficacy means that he or she believes that they have the skills and knowledge necessary to help their child succeed in school (Hoover-Dempsey and Sandler, 1995). The interviews, efficacy scale survey, and observations will be analyzed using the study's conceptual framework.

Impact

There is a pressing need for underrepresented families to gain access to nontraditional methods of parental involvement (Mapp, 2003). Historically, minority parents have had limited participation in roles that count in decision-making and policy implementation in schools. As a result, parents' opportunities to understand the school culture, structure, and functions have been restricted. However, school-community partnerships like the one examined in this study can empower parents by enabling them to become partners with schools and advocates for their children.

Focus Area/Broader Implications

Through access to this parent involvement program, parents become empowered actors in their children's education. As empowered actors parents can function in two roles: as individual and as collective decision makers (Jackson & Cooper, 1989). As individual actors, parents make decisions regarding the schooling of their children. Also, parents have the potential to act collectively as social network members to build the strength of the local school community and take joint steps to improve the education of their children through school and system-level participation and decision-making.

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Neuropsychiatric Symptoms and Obesity in Mild Cognitive Impairment

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Keywords: Mild Cognitive Impairment, obesity, Alzheimer's disease, depression

Objective/ Background

Mild Cognitive Impairment (MCI) is a transitional state between normal cognition and dementia (Petersen et al., 1999). Individuals with MCI convert to Alzheimer's disease (AD) at a rate of 10 – 15% per year (Petersen et al., 2004). In MCI, the emergence of neuropsychiatric symptoms (NPS) further predict an increased likelihood of developing AD (Lyketos et al, 2002). In addition, mid-life obesity has recently been implicated as a risk factor for the later development of dementia (Whitmer et al., 2008). These non-cognitive characteristics have not been accorded much attention as potential risk factors for AD within MCI. The goal of this research is to examine the prevalence of NPS and obesity independently and as co-morbid conditions in MCI. Previous work has indicated that depression, apathy and anxiety are the most common NPS in MCI (Feldman et al., 2004; Geda & Roberts, 2008) and the prevalence of depression is equally high among obese persons (Simon et al., 2006). Thus, our main hypothesis is that NPS will be highest among the obese subgroup, with depression, apathy and anxiety as the most frequent symptoms.

Study Design/Methods

This study includes MCI subjects ages 55 and older recruited from a geriatric neurology clinic serving the mid Michigan area. MCI is determined based on cognitive tests of memory, language, executive function and visual spatial tasks. Participants scoring ≤ 1.5 standard deviations below the age and education matched control population on one or more tests is indicative of a cognitive impairment. Testing and diagnosis was confirmed by an

expert neurologist. Subjects were then placed into MCI subgroups based on their body mass index (BMI). Weight groups were designated as normal weight (NW; BMI 18.5- 24.9), overweight (OW; BMI 25 - 29.9) and obese (OB; BMI \geq 30). The primary measure for NPS was the Neuropsychiatric Inventory Questionnaire (NPIQ) (Kaufer, D & Cummings, J., 2000). The NPIQ measures the presence or absence of 12 different neuropsychiatric conditions within the past month and if present the symptom is rated for its severity on a (1-3) scale. The 12 domains include; delusions, hallucinations, agitation, depression, anxiety, euphoria, apathy, disinhibition, irritability, aberrant motor, night-time disturbances and appetite.

Impact

The sample consisted of 113 MCI subjects, of which 30% were OB. Preliminary results of this work revealed that the prevalence of NPS on the NPIQ ($n = 86$) differed by BMI. Compared to NW, the OB had a significantly higher NPIQ mean total score ($t(54) = 2.0, p = .05$). In addition, BMI was positively correlated with total NPIQ score ($r = .216, n = 86, p < .05$). An analysis of symptom domain prevalence showed that nighttime disturbance and irritability were the most frequently reported symptoms for the whole MCI group (42%), with night time disturbance rated as the most severe NPS. Interestingly, the most frequent NPS differed by weight, with appetite and agitation highest among NW (34%), night time disturbances among OW (38%), and depression (36%) among OB.

Focus Area/ Broader Implications

MCI is a heterogeneous state with the possibility of multiple outcomes at the time of diagnosis. Research efforts are aimed at identifying risk factors within MCI that are the most likely to be associated with the development of dementia. However, the traditional subtypes of MCI researched are based on cognitive criteria alone. Identifying behavioral and cognitive changes that may be associated with weight may aid in better classifying MCI subgroups and

inform optimal clinical interventions. While the comorbidity of NPS and OB have been shown across multiple age groups, they have not yet been investigated in MCI. The treatment of NPS in individuals with MCI and lifestyle interventions for those with obesity such as diet modification and daily exercise may alter the emergence of behavioral symptoms. Continuing work focuses on neuroimaging correlates of behavioral changes in BMI groups in MCI, as well as longitudinal outcomes associated with these conditions.

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