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Message from the Dean

It is once again my pleasure to introduce this 6th volume of the GVSU McNair Scholars Journal. The 16 presentations in this issue continue the tradition of high quality undergraduate research, essential as we assist another class of McNair Scholars prepare for graduate studies.

I offer my congratulations to the authors and my sincere appreciation to the faculty mentors and to the McNair staff.



Mary A. Seeger, Dean

Academic Resources and Special Programs



GRAND VALLEY
STATE UNIVERSITY

***Before You Can Make A Dream Come True,
You Must First Have One.*** — Ronald E. McNair, Ph.D.

Ronald Erwin McNair was born October 21, 1950, in Lake City, South Carolina, to Carl and Pearl McNair. He attended North Carolina A&T State University where he graduated Magna Cum Laude with a B.S. degree in physics in 1971. McNair then enrolled in the prestigious Massachusetts Institute of Technology. In 1976, at the age of 26, he earned his Ph.D. in physics.

McNair soon became a recognized expert in laser physics while working as a staff physicist with Hughes Research Laboratory. He was selected by NASA for the space shuttle program in 1978 and was a mission specialist aboard the 1984 flight of the USS *Challenger* space shuttle.

After his death in the USS *Challenger* space shuttle accident in January 1986, members of Congress provided funding for the Ronald E. McNair Post-Baccalaureate Achievement Program. The goal is to encourage low-income, first generation students, as well as students who are traditionally under-represented in graduate schools, to expand their opportunities by pursuing graduate studies.



Ronald E. McNair Post-Baccalaureate Achievement Program

The Purpose

The McNair Scholars Program is designed to prepare highly talented undergraduates to pursue doctoral degrees and to increase the number of individuals (from the target group) on college and university faculties.

Who are McNair Scholars?

The McNair Scholars are highly talented undergraduate students who are from families with no previous college graduate, low-income background or groups under-represented at the graduate level for doctoral studies. The program accepts students from all disciplines.

Program Services

The McNair Scholars are matched with faculty research mentors. They receive academic counseling, mentoring, advising, and GRE preparation. In addition to the above services, the McNair Scholars have opportunities to attend research seminars, conduct research, and present their findings orally or written via poster presentations. In the first semester of their senior year, the scholars receive assistance with the graduate school application process.

Funding

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Waking Up: Windows of Encouragement



Alison Bates
McNair Scholar

ABSTRACT:

Waking Up is a three-dimensional installation that uses the stories, opinions, and messages of others addressing their reasons to live. These submissions are collected through a website created for this project and integrated with my own interviews and photographs. The photographs used in this project vary in format, size, and media. The physical piece is both ready for installation and available to a larger audience via a virtual gallery on the project website. The text and images built into the project allow the viewer to reflect on his/her own understanding of the feelings associated with suicide and recovery. My project's effectiveness hinges on its ability to communicate (through collaboration and exhibition) across psychological, social, and artistic boundaries.



Anthony Thompson, M.F.A.
Faculty Mentor

*"May you live everyday of your life."
Jonathan Swift*



Waking Up is inspired by the world I live in. People around me are suffering from a general dissatisfaction causing them to question their lives and reasons to live. Friends turn to me, as a survivor of attempted suicide, and ask me how I did it. Why did I choose to wake up every morning?

The fact is I made a choice. I chose to look at my life and decide what was good about it, and change what was bad about it. The hospitals, therapists, psychiatrists and medications could only take me so far. These things often helped me find a productive space in the midst of my madness; however, realizing that something was wrong and finding the strength to change was up to me. There is power in making a life-altering choice. I needed inspiration to carry me through each day, but each day I was met by new success, not just surviving, but also thriving. This choice and this inspiration is what Waking Up is all about.

My purpose as a photographer is to communicate. As an artist, I work in response to the world I live in. I create art to reflect the zeitgeist and find new ways to solve old problems. This is the ultimate purpose of making art, and it informs how we view art. It is through art that I am able to share my strength with others.

In creating this project, I asked others to tell me, and all those who suffer, what is good about their lives. I created a website which included a guest book to collect their personal stories and opinions, so that anyone could contribute and share their message of encouragement.

I translated this material into text and photographs. Originally, the project was conceived as a two dimensional, 7' by 7' wall mounted collage. However, in materializing this project, I began to realize how complex the guest book submissions and personal interviews were. People had an understanding of the complexity of their own lives, and were able to identify the themes that kept them living and moving forward. Acknowledging this complexity became part of my creative process, ever evolving to communicate my intentions most effectively. Every aspect of the project became very intentional, from



the use of images, the color of the paint, and the use of symbols.

The total size of the final installation is 8' by 6'. The artwork is completely functional; the stairs are intended for stepping up and all the windows open. I chose white paint as a symbol of purity. The white canvas does not necessarily indicate innocence, but an untainted view with the ability to create from a clean slate. Our pasts are part of who we are, and while it is important to learn from our past, it is equally important to not let the past hold us back. This notion of future vision was expressed over and over again by many of the people who chose to submit their stories to the project website.

Part of surviving depression and suicide is about overcoming obstacles to happiness. The stairs represent this aspect in their function of moving the viewer up in order to engage the project images. Climbing the stairs also requires the viewer to make a choice to be active in the work, just as we must choose to be active in our lives. Walking up the stairs is symbolic of the first step to recovery from depression and suicide. Recovery is not just a function of those who suffer. Each of us live in settings where we are surrounded by desperate people, often characterized by feelings of uselessness, meaninglessness, purposelessness, and hopelessness. This project not only serves those who are suffering this plight, but the communities that form them. By raising the awareness of suicide, we can work to save lives. Everyone must take these steps.

The center image serves as a visual representation of choice and life. I used symbolism in this image to interweave these two main concepts of the work. As one approaches the center, they are confronted with a collage of images. The collage operates as an acknowledgement to the variety and basic differences in everyone's everyday life. Using a collage



helped to make this image apply to anyone.

The pier within the collage represents a position of limbo leading to choice. A choice to enter the water, return to land, or stay in limbo. This choice embodies both outward and inward contemplation. The pier overlaps both the ground and water, which epitomizes the here and now. While the water can be taken to stand for the river Styx, it was not my intention to have the pier represent the choice between life and death.

The land, grass and tree characterize the ground in this image. The land is symbolic of the body, consciousness, origin, and home, while the grass and tree represent harvest, growth, family, and stability. Together, these concepts illustrate the importance of order and reaping the seeds you sow. The water collage consists of rivers, oceans and lakes. Water as a whole signifies the mind and soul as well as the subconscious. The river is the journey of

life, which must be contemplated. The ocean is water in its vastness, while the lakes are simpler, more local feats.

Between the tree and the water lie the sky, clouds and sun. New energy and positivism are the collective ideals of these elements, more specifically, hope, future, looking up, mystery and imagination. These ideas are important in inspiring new mindsets for overcoming depression and suicide. Hope is the theme that was most prevalent among the guest book entries. Hope for today, hope for tomorrow, and hope for all people.



The culmination of this project exists within the windows of encouragement. The windows themselves are visions of the soul. We are able to reflect in their glass, catch glimpses of our transitions and transformations, and see a whole new world. We do so actively, by opening the windows to view those reasons to live. Within the windows is

the text and photographs collected from the website. People from many parts of the world chose to dedicate their attitudes on life, living and helping others.

“It is not enough to have thought great things before the work. The brush stroke at the moment of contact carried inevitably the exact state of being of the artist at the exact moment into the work, and there it is, to be seen and read by those who can read such signs, and to be read later by the artist himself, with perhaps some surprise, as a revelation of himself.”

The Art Spirit,
Robert Henri, Harper and Row,
NY 1923 PG 15-17

Waking Up has become larger than my life experience. I have relished every moment of my encounters with this project and everyone who helped it come into existence. My most basic goal was to change someone's life. I had no idea how many people this project would touch or how much it would change me.

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Without you, this project would never exist...

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Attitudes About Cosmetic Surgery: Gender and Body Experience

ABSTRACT

This study investigates relationships between acceptance of cosmetic surgery and several variables related to the body. A sample of 359 college students completed the Acceptance of Cosmetic Surgery Scale, as well as measures of state self-esteem, body shame, body surveillance, appearance control beliefs, and public self-consciousness. It was predicted that acceptance of cosmetic surgery would be positively related to public self-consciousness, body shame, and body surveillance. It was also predicted that acceptance of cosmetic surgery would be negatively related to appearance self-esteem and appearance control beliefs. For the most part, findings were consistent with the hypotheses; however, patterns of relationships among the variables were not identical for women and men. Results are discussed in terms of differences in the way women and men experience their bodies.



Jennifer Bazner
McNair Scholar

Donna Henderson-King, Ph.D.
Faculty Mentor
(Photo not available)

Factors Related to Cosmetic Surgery

Social cues regarding attractiveness expectations are ubiquitous. Daily we are bombarded with advertisements and other media images that help set the standards by which we evaluate ourselves (Faludi, 1991; Fredrickson & Roberts, 1997; Itzin, 1986). These expectations for attractiveness create standards that are impossible to attain. While both women and men are often subject to impossible pressures for attractiveness, these pressures are different for women and men. Media images illustrate that in our society men are expected to appear muscular and affluent, while women are expected to be thin, yet shapely, dainty, have perfect facial features, and no wrinkles (Adams & Crossman, 1978). When dieting, makeup use, and other such strategies to achieve these standards fail, individuals may become more accepting of cosmetic surgery. The purpose of this study is to examine relationships between internalized cultural expectations for attractiveness, such as objectified body consciousness, state self-esteem, public self-consciousness, and acceptance of cosmetic surgery.

In recent years, television shows, movies, countless advertisements, and other media images have reflected a drastic increase in cultural expectations for attractiveness. Thus, it should come as no surprise that there has also been a corresponding increase in rates of cosmetic surgery. For example, from 1992 to 2000, eyelid surgery increased by 190%, liposuction by 386%, and breast augmentation by 476%. Since attractiveness expectations are higher for women, it is also not surprising that 91% of cosmetic surgery procedures are performed on women (American Society of Plastic Surgeons, 2000). However, little research exists to date that examines people's attitudes about cosmetic surgery, or how those attitudes are formed.

There are numerous factors that have the potential to influence an individual's acceptance of cosmetic surgery. While gender influences how one experiences her or his body and may influence attitudes about cosmetic surgery as a result of these experiences, other factors may also play a part in forming attitudes about cosmetic surgery. One of these factors is public self-consciousness. Fenigstein, Sheier, & Buss (1975) define public self-consciousness as an individual's awareness that she or he is being viewed and evaluated by others. Such self-awareness would be necessary in order for cultural expectations regarding attractiveness to affect the individual, and could reasonably be expected to affect attitudes about cosmetic surgery as well. Previous research has indicated that public self-consciousness is negatively correlated with self-esteem (Ickes, Wicklund, & Ferris, 1973), particularly in women who are comparing themselves to ideal standards of beauty (Thornton, & Maurice, 1999). Thus, to the extent that cosmetic surgery is viewed as having the potential to ameliorate problems related to physical appearance, it is reasonable to expect that people who are high in public self-consciousness would be more accepting of cosmetic surgery. Moreover, given the pressures for women, in particular, to be attractive, we might expect this relationship to be especially strong for women.

Women are also likely to experience higher levels of objectified body consciousness, which McKinley & Hyde (1996) define as the experience of one's own body as an object. This occurs as a result of society's tendency to objectify women's bodies. Objectified body consciousness is composed of three related constructs; body surveillance, body shame, and appearance control beliefs. McKinley and Hyde (1996) define body surveillance as the tendency to be highly vigilant of one's appearance,

body shame as the feeling of shame that results from dissatisfaction with one's body, and appearance control beliefs as how much control an individual believes she has over her body, such as body shape and weight. McKinley (1995) argues that women develop an objectified body consciousness as a result of internalizing cultural standards of attractiveness. This, in turn, leads women to increase body surveillance and to be more likely to alter their bodies in attempts to meet the cultural standards. Thus, we expect objectified body consciousness to be related to attitudes about cosmetic surgery.

State self-esteem might also be related to attitudes about cosmetic surgery. Heatherton and Polivy (1991) found that self-esteem tends to fluctuate within specific domains, and that one specific component of state self-esteem is appearance self-esteem. Given that individuals are motivated to enhance their self-esteem, those who are experiencing low appearance self-esteem might be more accepting of a variety of strategies designed to improve physical appearance. If this is the case, we should expect a negative relationship between appearance self-esteem and acceptance of cosmetic surgery. In other words, people who feel dissatisfied with their physical appearance, even if only temporarily, should have more positive attitudes about cosmetic surgery.

Therefore, it is predicted that attitudes about cosmetic surgery will be related to objectified body consciousness, public self-consciousness, and state self-esteem. Specifically, it is predicted that public self-consciousness, body shame, and body surveillance will be positively related to acceptance of cosmetic surgery. In other words, those who are high on public self-consciousness, who experience shame related to their bodies, and who frequently monitor their appearance, should have more positive attitudes about cosmetic surgery. It is

also predicted that appearance state self-esteem and appearance control beliefs will be negatively related to acceptance of cosmetic surgery. In other words, those who are low in appearance state self-esteem and those who feel they have little control over their appearance should also have more positive attitudes about cosmetic surgery. It was also expected that, consistent with past research (Henderson-King & Henderson-King, 1998), women would be more likely to consider having cosmetic surgery.

Method

Participants

A total of 359 subjects, 158 male and 201 female, participated in this study as part of an introductory psychology course requirement. The average age of the participants was 19.

Measures

Participants completed a packet consisting of demographic information and seven surveys measuring different factors believed to be associated with attitudes towards cosmetic surgery. The measures are described below. *Acceptance of Cosmetic Surgery Scale (ACSS)*. Henderson-King and Henderson-King (1998) developed the ACSS to measure acceptance of cosmetic surgery. The measure consists of 17 items on a seven-point Likert scale, ranging from 1 (disagree a lot), to 7 (agree a lot). The measure is divided into three subscales: Social, Intrapsychic, and Consider. The Social subscale investigates attitudes about the social benefits that might accrue from having cosmetic surgery (i.e., the desire to achieve cultural expectations for physical attractiveness). The Intrapsychic subscale measures attitudes related to internal emotional benefits of having cosmetic surgery. The final subscale, Consider, measures the degree to which the individual would consider having

cosmetic surgery. For each of these subscales, a high score indicates greater acceptance of cosmetic surgery. This scale demonstrates strong reliability and validity.

Self-Consciousness Scale (SCS)

Fenigstein, Scheier, & Buss (1975) created this scale to assess both private and public self-consciousness. The SCS consists of 17 items rated on a 5 point Likert scale ranging from 0 (extremely uncharacteristic), to 4 (extremely characteristic). Fenigstein et. al. (1975) defined public self-consciousness as a general awareness of the self as a social object. The items focus on individual self-awareness, such as how one believes she or he appears to others. For the purposes of this study, public self-consciousness was the relevant variable. The Self-Consciousness Scale has been found to be factorially sound, have good test-retest reliability, and good discriminant validity.

State Self-Esteem Scale (SSES)

Participants also completed the 20-item SSES (Heatherton & Polivy, 1991). Participants respond to each item using a 5-point Likert scale, ranging from 1 (not at all), to 5 (extremely). The SSES is composed of three subscales that measure social, performance, and appearance aspects of state self-esteem. For this study, we focused on appearance state self-esteem. A high score on this measure indicated high appearance state self-esteem. This is a widely used instrument with well-demonstrated reliability and validity.

Importance of Attractiveness

The importance of physical attractiveness was measured using a scale consisting of 20 items. The scale lists characteristics such as honesty, sense of humor, wealth, political and religious standings, and attractiveness. The first 10 items assess how important

it is that the participant has these traits. The second 10 items are identical to the first ten, and assess how important it is that the participant's significant other possesses the same traits. The scale for each item ranged from 1 (not at all important), to 10 (extremely important). For the purposes of this study, only the importance of attractiveness was examined as a correlate of attitudes towards cosmetic surgery. For this variable, a mean across importance of attractiveness for self and significant other was computed. A high score indicated high importance of attractiveness.

Objectified Body Consciousness Scale (OBC)

McKinley and Hyde (1996) created the OBC, which measures the internalization of cultural standards regarding women's appearance. The scale is based on the theory that women in western culture tend to internalize cultural body standards that are difficult and even impossible to achieve. The OBC has three subscales: Surveillance, Body Shame, and Appearance Control Beliefs. Body Surveillance refers to the tendency for a woman to view her body as would an external onlooker; to view her body as an object. Body Shame occurs when internalized standards of beauty are not achieved. The final scale, Appearance Control Beliefs, assesses the amount of control a woman believes she has over her appearance, such as weight and body shape. A high score on each of the subscales indicates high levels of body shame, surveillance, and appearance control beliefs. The scale consists of 24 items on a seven point Likert Scale ranging from 1 (strongly disagree) to 7 (strongly agree). McKinley and Hyde (1996) found this scale to demonstrate high reliability and validity.

Miller Cox Attitudes About Makeup Scale (MCAAMS)

Participants also completed the

MCAAMS (Miller & Cox, 1982). This scale was developed to assess women's attitudes about the use of makeup. For the purposes of this study, minor modifications were made for use with male subjects. Thus, women completed the original scale and men completed a modified version that assessed men's attitudes towards women's makeup use. The measure is a six-item inventory using a five-point Likert scale ranging from one (not at all characteristic), to five (extremely characteristic). A high score indicated more positive attitudes about the use of makeup in enhancing attractiveness. Miller & Cox (1982) found this scale to demonstrate good reliability and validity.

Procedure

Participants were tested in groups of up to thirty individuals. After all scheduled participants had arrived, they were instructed to fill out a packet of surveys designed to give the experimenter "a better understanding of a variety of issues related to the individual." Participants then filled out a packet consisting of demographic information and the scales described above. After completion of the survey, participants were debriefed.

Results

Means and standard deviations for all relevant variables can be found in Table 1. T-tests indicated that women scored significantly lower on the Social subscale, and significantly higher on the Consider subscale, of the ACSS than men did. These data indicate that, in this sample, men are significantly more accepting than women of cosmetic surgery for social reasons, while women are significantly more likely than men to consider having cosmetic surgery themselves.

Pearson correlation coefficients for subscales of the ACSS and Body Surveillance, Body Shame, Appearance

Control Beliefs, Appearance State Self-Esteem, and Public Self-Consciousness can be found in Table 2 for women, and Table 3 for men. For women, as expected, both the Social and Consider subscales of the ACSS were positively correlated with Body Surveillance, Body Shame, and Public Self-Consciousness, and negatively correlated with Appearance Control Beliefs and Appearance State Self-Esteem. The Intrapsychic subscale, however, was positively correlated only with Body Shame.

For men, as expected, the Social and Consider subscales of the ACSS were positively related to Body Surveillance, Body Shame, and Public Self-Consciousness, and negatively related to Appearance Self-Esteem. The Intrapsychic subscale was positively related to Body Surveillance and Public Self-Consciousness, and negatively related to Appearance Self-Esteem. Appearance Control Beliefs were unrelated to the ACSS.

Discussion

Findings from this study indicated that men were significantly more likely to accept cosmetic surgery for social reasons, while women were more likely to actually consider having cosmetic surgery. Typically, cosmetic surgery has been viewed as relatively normal for women when it enhances youthfulness and beauty; specifically, it is considered “normal” for a woman to have cosmetic surgery in order to become or remain attractive to the opposite sex. On the other hand, cosmetic surgery is considered more acceptable for men when it is done for more pragmatic reasons, such as to further a business career (Dull & West, 1991). The gendered construction of cosmetic surgery may explain why men are more likely to accept cosmetic surgery for social reasons, while women are more likely to actually consider having cosmetic surgery.

Correlational findings revealed both similarities and differences between women and men. As expected, for both women and men, there were similar positive relationships between the Social and Consider factors of the ACSS, and Body Surveillance, Body Shame, and Public Self-Consciousness, and similar negative relationships between the Social and Consider subscales on the ACSS and Appearance State Self-Esteem. However, analyses involving the Intrapsychic subscale revealed a different pattern of results for women and men. For men, the Intrapsychic subscale of the ACSS was positively related to Body Surveillance, Appearance State Self-Esteem, and Public Self-Consciousness. In contrast, for women, the only significant correlation for the Intrapsychic subscale was with Body Shame. It is possible that that constant exposure to ideal female images might create a situation in which women simply become accustomed to higher Body Surveillance and Public Self-Consciousness. In other words, paying attention to one’s body is more normative for women than for men. Not only are women expected to be more concerned with their physical appearance (Bartky, 1990), but this concern is translated into a good deal of time spent on body surveillance for women; for example, when applying makeup every morning, checking and re-applying makeup throughout the day, and checking their clothing in mirrors throughout the day (Dellinger & Williams, 1997). If this kind of attention to the body is, indeed, characteristic of many women, this might reduce the effects of body surveillance and public self-consciousness on attitudes about cosmetic surgery.

In summary, overall similarities in women and men’s acceptance of cosmetic surgery suggest that both women and men are affected by cultural standards for attractiveness, and that

how people feel about their bodies is related to attitudes about cosmetic surgery. Correlational data for the Social and Consider subscales point to similarities in women and men’s experience. However, data from this study also point to some sex-related differences regarding attitudes about cosmetic surgery and these should be further explored in future research. Furthermore, since all participants in this study, 90% of whom were 19 years of age, and 80% of whom were Caucasian-American, were sampled from introductory Psychology classes held at a conservative Midwestern college, this limits our ability to generalize findings. Future studies in this area should address this limitation by expanding research to populations that are more diverse in ethnicity and age, and have a wider range of political and religious views.

Table 1. Mean Scores on ACSS Subscales for Women and Men

Subscale	Women (<i>n</i> = 198)		Men (<i>n</i> = 158)		t
	M	SD	M	SD	
Intrapsychic	3.80	1.18	4.0	1.07	-1.56
Social	2.39	1.22	2.69	1.37	-2.16*
Consider	3.27	1.69	2.68	1.38	3.54**
*Significant at the .01 level					
**Significant at the .001 level					

Table 2. Correlations Between Women's Scores on the ACSS and Relevant Variables

	ACSS		
	Intrapsychic	Social	Consider
Body Surveillance	.122	.244**	.290**
Body Shame	.170*	.199**	.255**
Appearance Control Beliefs	-.063	-.145*	-.145*
Appearance State Self-Esteem	-.121	-.260**	-.259**
Public Self-Consciousness	.104	.301**	.243**
*p < .05			
**p < .01			

Table 3. Correlations Between Men's Scores on the ACSS and Relevant Variables

	ACSS		
	Intrapsychic	Social	Consider
Body Surveillance	.258**	.349**	.362**
Body Shame	.147	.204*	.186*
Appearance Control Beliefs	-.073	-.143	-.064
Appearance State Self-Esteem	-.199*	-.262**	-.320**
Public Self-Consciousness	.322**	.371**	.463**
*p < .05			
**p < .01			

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The Grand Rapids Civil Rights Movement From 1954-1969: A Sociological Study



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ABSTRACT

*Although advancements have been achieved over the past 30 years, many experts would argue that the problems that plague the African-American community have not changed much. The American Civil Rights Movement has been credited with improving the quality of life of under-represented minorities. The purpose of this study is to examine whether or not the Civil Rights Movement helped to improve the status of the African-American community in Grand Rapids, Michigan. A thorough analysis of the local newspaper, the **Grand Rapids Press**, from 1954-1969, supplies the empirical data utilized as the foundation of this research. The local data was applied to Doug McAdam's political process model and this study focuses on political opportunities, indigenous organizational strength, cognitive liberation, and support from liberal external groups. The interplay of these factors helps to evaluate the Civil Rights Movement's success in Grand Rapids. The research determined that the local African-American community was unable to utilize the opportunities due to internal conflict and the political hegemony's refusal to acknowledge the existence of such a movement.*



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Introduction

Studies of social movements have taken various forms over the past 30 years, especially explanations for the genesis and eventual decline of the American Civil Rights Movement. Currently, there are three social movement models that dominate the field. First, there is the classical model of social movements, which argues that social change is the result of a systematic "strain" on the social infrastructure of the political system. Hence, the commotion associated with the "strain" is transformed into feelings of anxiety, frustration, and hostility that lead to the emergence of a social movement (McAdam, 1982: 9). Secondly, the resource mobilization model argues that social movements are the result of the quantity of "social resources" that are accessible to "unorganized but aggrieved groups, thus making it possible to launch an organized demand for change" (McAdam, 1982: 211). Although both models offer valid points to the causation of social movements, neither one offers a complete analysis that explains the factors that precede the insurgency or the political processes that afforded the aggrieved groups the possibilities to forge a successful movement.

The third model is Doug McAdam's political process model of the American Civil Rights Movement. McAdam aims to address the political and the sociological factors that neither the classical nor resource mobilization models focus on. Nevertheless, the political process model is based on the assumption that political members reflect an abiding "conservatism" in order to substantiate political power. This conservatism, according to McAdam, encourages political members to "resist changes that would threaten their current realization of their interests even more than they seek changes which would enhance their interests"

(McAdam, 1982: 38). Unlike the classical model, the political process model relies on the notion that social movement is a continuous phenomenon that thrives on the interplay of four factors. The first factor is the emergence of broad socioeconomic processes that expand the capacity for more political opportunities over an extending period of time. The second is the “readiness” of the indigenous organizations when the political opportunities become available. The third is the emergence of a collective consciousness among the challenging groups that encourages the belief that the movement is leading in a successful direction. The final element is the ability to win the support of external groups in order to broaden the opposition against the conservative political structure (McAdam, 1982: 40).

The goal of this research is to examine how effective the Civil Rights Movement was in Grand Rapids, Michigan. The research is based on an examination of the *Grand Rapids Press* from 1954 to 1969. In addition, historian Randal M. Jelks’ historical narrative of the African-American population in Grand Rapids from 1870 to 1954 has been used. Analysis will examine the indigenous organizations established within Grand Rapids, the social consciousness within the African-American community, and the extent of the local whites involvement in the Civil Rights Movement in Grand Rapids. The application of the empirical evidence to McAdam’s political process model of the American Civil Rights Movement will reveal how effective the indigenous organizations were in preparing the African-American community in Grand Rapids and the ability of the African-American community to capitalize on political opportunities after the Civil Rights Movement began.

Methods

I conducted a thorough analysis of the *Grand Rapids Press* from 1954 to 1969 to analyze how effective the American Civil Rights Movement was in Grand Rapids, Michigan. Three different procedures were practiced. First, newspaper articles were researched by significant historical dates during the Civil Rights Movement. Secondly, the library index catalogue was used to retrieve newspaper. Finally, the newspaper archives were then surveyed for all issues concerning African-Americans.

Political Opportunities

McAdam’s model defines a political system that consists of members and challengers. The members of the Grand Rapids political infrastructure consisted of white people who had a vested organ of information, the *Grand Rapids Press*, to reflect their political perceptives. The challengers are the people who lack routine access to decisions that affect them. For the purpose of this discussion the challengers were the people in Grand Rapids. According to McAdam, the challengers are excluded from routine decision making processes because they had a weak bargaining position compared to the established political members (McAdam, 1982: 38).

The political process model contends that a long-term transformation of the structures of power and collective action contribute to the expanding political opportunities for challenging groups (McAdam, 1982: 73). McAdam argues that there were specific broad social processes occurring from 1930 to 1954 that undermined the political and economical conditions on which the racial status quo has been based. Together these processes facilitated the development of the African-American movement by profoundly altering the shape of the political configuration confronting African-Americans (McAdam, 1982: 54).

McAdam lists factors that contributed to this political transformation including the decline of the cotton hegemony, the New Deal, the Great Migration, World War II, and the international exposés of racism in America that led to the increasing favorable governmental actions (McAdam, 1982: 45). Randal Jelks’ analysis of the African-American community in Grand Rapids supports McAdam’s argument that these factors expanded the political and economic opportunities for the African-Americans in Grand Rapids (Jelks, 1999: 249). From the turn of the twentieth century, the African-American community in Grand Rapids sought to end “Jim Crowism” in Grand Rapids. WEB DuBois and the National Association for Advancement of Colored Peoples’ (NAACP) approach in seeking integration through legal means heavily influenced the African-Americans middle class in Grand Rapids. “These men and women believed by attacking the legal basis of the racial caste system they would then be able to put an end to dishonor imposed on them by racist custom” (Jelks, 1999: 140).

In relation to Doug McAdam’s political process model, the fear of the communist threat weighed heavily on the public after World War II. The Cold War revealed the racist practices in the United States. As a result, the United States government was forced to respond to the problem of segregation in order to counter the anti-American sentiments led by the Soviet Union. For instance, during the McCarthy hearings, the U.S. Supreme Court ruled segregation unconstitutional. In the *Grand Rapids Press* on May 19, 1954, the day after the Supreme Court decision, the headline “Ike Urges Continuance of McCarthy Hearings” (Segregation, 1954: 2) surfaced on the front page, while on the second page an article regarding the decision read “Segregation Ruling Means Headache to South” (School, 1954: 2). It

is apparent the *Grand Rapids Press* and the members of the political establishment did not view the ruling as a local issue, but rather a Southern issue. For example, the following day, an article titled "Supreme Court's School Segregation Decision Will Not Help Republicans in Dixieland in November Elections" (Supreme Court, 1954: 7) continued this view.

From the beginning, the white establishment viewed the ruling as a political issue not a social issue. The *Grand Rapids Press'* coverage of the historic decision covered two concerns: increasing school aid funding and whether the process of integration would be immediate or gradual (Issue, 1954: 21). However, the argument over immediate action versus gradualism was clearly a major issue for the African-American leadership in Grand Rapids. In a speech given in 1958 by the president of the Grand Rapids NAACP, William Plummer expressed his concern:

We can believe in a gradual program, providing the delay is necessary to plow a Constitutional program working toward the end of segregation and discrimination within a reasonable length of time. We do not believe in gradualism if it represents the steal and denial of Civil Rights because of the violence directed toward Negro-Americans by those that believe in racial superiority (Jelks, 1999: 299).

In a letter to the editor, on May 19, 1954, a Grand Rapids resident claimed that "despite great migrations of Negro workers, assimilation into regular public school system without segregation has taken place with comparatively few problems" (No Separate, 1954: 10).

Contrary to the previous claim, in an article prior to the Supreme Court decision, the NAACP urged for better integration by advocating for the

relocation of the new Hall School to include the Franklin School District, which consisted of the African-American residential area in Grand Rapids. (Hall School, 1954: 1) Dr. Randal Jelks concurs:

By the mid 1950's Grand Rapids was a far less integrated city than it had been in its early history... As the number of Negro Migrants increased in the city the racial composition of a few of the neighborhoods school changed... the Negroes were Restricted to where they could live. 99.8 percent of the African-Americans lived in a tightly restricted segregated area bounded by Eastern, Grandville, Wealthy, and Franklin streets, an area of about 30 blocks (Jelks, 1999: 267, 295).

Hence the African-American community was severely limited to any expanding political opportunities in Grand Rapids by two factors. The African-American leadership was forced to deal with the progressing fear of the ghettoization of the African-American community, while the white establishment refused to recognize their concerns.

Indigenous Organizational Strength

According to the political process model, an integral part of a successful social movement is the readiness of the indigenous organizations. McAdam believes that a favorable political climate affords the challenging population the opportunity to advance their causes. "It is the resources of the minority community that enable the insurgent groups to exploit these opportunities. In the absence of those resources the aggrieved population is likely to lack the capacity to act even when granted the opportunity to do so" (McAdam, 1982: 43).

With respect to the organizational strength of the African-American community in Grand Rapids, there were many problems that prevented the African-American population from capitalizing on the opportunities. For one, the African-Americans were never able to agree on a specific approach on how to work with the white political establishment. Following Reconstruction, African-American pathways to equality were dominated by two traditions. One believed that racism was not just a "black problem, but an American one" and that the best way to remedy the problem of racism was to assert the rights of African-Americans through the legal system (Wintz, 1996: 1).

The second belief system focused on community development and self-help. When faced with racial hostility, African-Americans should "turn inward and concentrate energy on a black community that advocated pride, solidarity, and self" and believed that segregated institutions and communities were necessary (Wintz, 1996: 2). Despite these differences, both traditions continued. The difference in ideology was the foundation of the major problems that plagued the African-American leadership in Grand Rapids.

As Southern African-Americans migrated to Grand Rapids, they brought their Southern culture and separatist ideas, while the more conservative northern African-American middle class sought respectability and the right to assimilate into society. The newcomers did not trust the white establishment and felt that it would be easier to build their own communities, in a manner similar to the various white communities within Grand Rapids. The African-American southern migrants' negative view of whites and desire for a more self-help approach led to class conflicts with the integration-seeking African-American elite that were already established in the Grand Rapids.

According to Jelks, the African-American leadership's inability to prevent ghettoization in Grand Rapids "took a psychological toll on the efforts to organize the African-American community (Jelks, 1999: 296). For the majority of the local African-Americans, the issue was no longer gaining respectability, but the ability to gain more jobs and better housing for African-Americans.

Another issue that kept the African-American population from capitalizing on opportunities during the heyday of the Civil Rights Movement was that the white establishment failed to recognize the national issues. While at the same time, the established African-American leaders in Grand Rapids abandoned the community and formed their own socioeconomically segregated suburbs (Jelks, 1999: 215). The inability of the local African-American leadership to coherently mobilize between 1961-1965 (which McAdam insists was the peak of the national Civil Rights Movement) prevented the indigenous organizations from exploiting the expanded political opportunities.

African-Americans were forced to deal with two problems. First of all, the local media failed to acknowledge that racism was a problem outside of the South. Also, the *Grand Rapids Press*' decision to not recognize the local African-American leadership subdued any chance of advancing their cause. Based on the assumption that the *Grand Rapids Press* reflected the views of the white majority, this speaks to the manner in which the political establishment would have preferred to handle the problem within the city. Rather than report on the uncomfortable topic of racism, the local media reported heavily on the actions of the federal government, diverting the attention from local ills.

For instance, on August 29, 1957, the *Grand Rapids Press* reviews the impact of the Supreme Court decision four years

after ruling against racial segregation. The emphasis was still focused on the Southern segregation practices and failed to discuss the Grand Rapids NAACP's efforts to desegregate the schools and hire more African-Americans teachers (Integration, 1957: 26). In addition, the reporting of the 1963 March on Washington mentions Dr. Martin L. King only once, and that was to reveal that Dr. King welcomed Marlon Brando and Harry Bellefonte to the stage. The article neither mentioned Dr. King's powerful "I Have A Dream Speech" nor the impact of the March on Washington across the country (Huge, 1963: 1).

The first significant national coverage of a major civil rights leader in the *Grand Rapids Press* was the assassination of Malcolm X in 1965. Ironically, the article recalls a visit by Malcolm X earlier in 1965, but mentions that he only attracted 300 people at a local church that did not sponsor his lecture but made the facilities available for rental (Recall, 1965: 9). The article clearly downplayed Malcolm's influence in the local African-American community and purposely distanced the national leader from Grand Rapids.

Dr. Jelks' summation of the African-American community differs significantly from the *Grand Rapids Press*' portrayal of the "New Black Separatist Movement" in Grand Rapids during the late 1950's and 1960's. In a speech given by Malcolm X at Adam Clayton Powell's New York Abyssinian Baptist Church in June, 1963, Malcolm X articulated the sentiments of many African-American radicals of that time, including Grand Rapids African-Americans, that "The only progress we have made is as consumers. We still don't manufacture anything; we still don't legislate for ourselves. Our politics is still controlled by white people, our economy is still controlled by white people therefore we have no real say about our future" (Karim, 1971: 15). Malcolm X's views

and remarks symbolized the changing of the guard in many northern cities. African-Americans no longer wanted to wait for the legal acts to create change. Instead, many communities began to take action into their own hands by the mid 1960's.

Cognitive Liberation

According to the political process model, a social movement must grow along with expanding political opportunities and indigenous organizations. The development of a social consciousness that encourages an enthusiasm and an opportunistic view of the movement must emerge. McAdam calls this social opportunity "cognitive liberation." McAdam argues that the favorable shifts in political opportunities decrease the power disparity between challengers and members of the established hierarchy. Although these opportunities are important, the structural changes are objective by nature. These changes still have a subjective affect on the insurgent population as well. The challengers are then able to believe that their efforts are not in vain. The newfound opportunities begin to form a set of meaningful events that perpetrate the idea that improvements from the movement will continue (McAdam, 1982: 48). Thus the challengers will begin to view the system as illegitimate. Subsequently, the people will begin to embark on the opportunities, demand change, and start to envision the demands to come (McAdam, 1982: 48-50).

Between 1954 and 1967, there was little or no indication in the *Grand Rapids Press* that there was a significant social movement that encouraged African-Americans to have anything to be optimistic about. Many in the African-American community read local African-American publications like *Grand Rapids Times* and Carl Smith's *Organizer* to keep aware of local African-Americans issues.

Even though the NAACP and Grand Rapids Urban League were present and advocating the integration of schools and improving the housing problems, the African-American middle class leadership was unable to tap into the social consciousness of the African-American working class during the 1950s and 1960s. In Randal Jelks' PhD dissertation *Race, Respectability, and the Struggle for Civil Rights*, Jelks quotes Paul Phillips (the former president of the Grand Rapids Urban League), "Attitudes of the African-Americans have also changed, before the 1950s the black man's hand was open, but the white man wouldn't grasp it. In the 1960s the outstretched hand changed to a clenched fist" (Jelks, 1999: 301). Nevertheless, the African-American community in Grand Rapids possessed cognitive liberation. But in contrast to the reason that McAdam suggests, the people were frustrated, agitated, and disappointed in the lack of progress in their community. African-Americans were still forced to deal with pressing socioeconomic concerns, housing restrictions, police brutality, and the white political establishment's refusal to address the African-American community's demands.

Liberal White Support

According to McAdam the support of the external groups is integral to a social movement. After gaining momentum internally the insurgency needs to be able to broaden its appeal. Doug McAdam argues that there are two deciding factors that determine this external response to the movement. The movement must be strong enough to outweigh the risks that are associated with supporting the challenger ranks. Secondly, the external groups must determine to what extent the movement poses a threat or opportunity to persons outside of the African-American community. In the Grand Rapids Civil

Rights Movement the insurgent forces were able to articulate formally a viable platform that generated a large number of liberal whites, but the liberal support gained momentum after the Civil Rights Movement began to decline.

One factor that affected the relationship between the local whites and the African-Americans was demographics. By 1958, only ten percent of the city's African-American population was native born while, seventy-five percent were southern migrants (Jelks, 1999: 258). A large majority of the working class African-Americans sought a more immediate approach to the economic problems that affected their community, while a small-established African-American elite continued to seek respectability by campaigning for more integrationist policies.

The white middle class citizens that were participants of the local Movement were often members of the Grand Rapids Urban League and favored a more gradual program that seemed a lot less threatening and confrontational (Jelks, 1999: 253). There were incidents where local whites would display some form of solidarity toward local African-Americans, but those alliances were often centered on national tragedies. For instance, after the church bombing in Birmingham, Alabama, in 1963 where four young African-Americans girls were killed, many whites participated in a 3,000 person silent march on Division Avenue condemning the bombing. Reverend Will Patterson, pastor of True Light Baptist Church, said, "White brothers in the audience you have marched with us today, but please march with us tomorrow because we need jobs and places to live right here in Grand Rapids" (Whites, 1963: 25). But no later action was taken on the part of the whites.

Another reason why it was hard to gain support among whites is that the

local whites were also segregated. During the 1950s and 1960s, Grand Rapids was clearly divided into ethnic divisions. According to Robert Ashley, a Grand Rapids resident since 1957:

The Polish population was in the Northwest; the Irish were in the Northeast, the Dutch were in the East and the Blacks were in the Southeast. Certain areas in Grand Rapids Blacks just didn't go. Ethnic pride was major within many White communities in Grand Rapids and to be seen participating in activities with other groups, much less Black groups, was unheard of during the Civil Rights Movement (Ashley, 2002).

In 1967, Grand Rapids experienced the greatest sign that the local African-Americans were no longer willing to stand for the inequalities. During 1967, many African-Americans in northern cities rioted, including Grand Rapids' residents. According to the *Grand Rapids Press*, the local two-day riot was started by African-Americans youth throwing rocks at passing automobiles on Division Avenue. A study conducted six months later revealed that thirty percent of the rioters were white and ninety-six percent of the African-Americans population did not participate in the riot (Alt, 1967: 17).

Shortly after this riot, articles regarding housing, unemployment, and education began to appear on the local headlines. For example, city officials began to discuss a new city housing code, in particular possible programs to reduce racial imbalance in a neighborhood threatened by "panic" selling by whites and whether or not such a program would succeed (Allbaugh, 1967: 19). The newspaper did not give out any more information about the matter. Although the local media began to illuminate inner-city ills,

there was little action on the part of the political establishment to right the wrongs (Alt, 1968: 15).

The Decline of the Civil Rights Movement

According to Doug McAdam, there are two periods in the African-American insurgency; the heyday of the Civil Rights Movement between 1961 and 1965, and the decline of the Civil Rights Movement from 1966-1970. During the former period, the national African-American leadership was able to maintain organizational strength and capitalize on the political opportunities to increase the consciousness of many participants. Also, the federal government was willing to support the movement by controlling the opposition (McAdam, 1982: 180). Unfortunately, the Grand Rapids African-American leadership was unable to reconcile their differences, preventing them from making the same type of progress the national movement did during its heyday. The economic and political restrictions were intense and each side firmly believed in its agenda.

Although McAdam places the decline of African-American insurgency from 1966 to 1971, local research indicates that the Grand Rapids Civil Rights Movement began to decline much earlier. Four factors led to the decline of the movement. First the organizational structure of the movement began to weaken. This was followed by a conservative backlash to the movement, which dismantled the structure of political opportunities. Also, the social consciousness among insurgents began to deteriorate in the late 1960s after the loss of African-American leaders like Martin Luther King and Malcolm X. Finally, the conservative campaign to repress the African-Americans made it unpopular for other groups to continue supporting the movement as it became far more radical (McAdam, 1982: 227-229).

Unfortunately, cultural conflicts between the new migrants and the established African-American community, along with differences in ideology, stunted the power to pressure the local political system. As a result the African-American elite abandoned the African-American community and formed their own separate suburbs in the 1950s (Jelks, 1999: 251). This left the leadership in the hands of southern African-Americans who:

did not necessarily have an interest in living in integrated neighborhoods. They worked to build their own communities without the hindrance of racial prohibition. The problem was the Negro ghetto was structurally blocked from being able to compete fairly in the labor market and the urban industrial economy (Jelks, 1999: 224-225).

Furthermore, the shrinking of local political opportunities in Grand Rapids worsened the decline of the Civil Rights era. The African-American population consisted of only five percent of the total population in the city despite the great migration of African-Americans from the South, thus allowing the white population to continue ignoring the demands of the African-Americans and treat the Civil Rights Movement as if it were only relevant in other areas.

As a result, the African-American community in Grand Rapids was never given a reason to feel optimistic about the Civil Rights Movement on a local level. Instead, they were frustrated and determined to find another way to be heard. By the late 1960s, the African-American community in Grand Rapids was tired of reaping marginal results for their efforts. African-Americans were still dealing with the same problems that they had faced in the 1950s; unemployment, poor housing, police

brutality, healthcare and education issues. African-Americans were eager to leave the slums, while realtors were systematically preventing African-Americans from relocating even after the federal government deemed it illegal to do so (Alt, 1967: 14). This added to the already existing racial tension in the area.

Conclusion

Doug McAdam's political process model has provided a tool to question various reasons why the African-American community was unable to take advantage of the American Civil Rights Movement. The political process model's most valuable contribution to this study of Civil Rights Movement is that it helps researchers understand why the African-American community in Grand Rapids has not capitalized on their opportunities.

This study indicates that the African-American community was not in a position to maximize the opportunities of the national Civil Rights Movement. When applying the political process model to the Grand Rapids Civil Rights Movement, the internal conflict between the old African-American elite and the new southern leaders prevented reconciliation between their cultural and ideological differences that could have prepared the indigenous population for "readiness." Furthermore, the white political infrastructure refused to personalize the issues of the Civil Rights Movement and chose to refer to it only as national or southern problem until it was too late. In addition, the local African-American small population (less than five percent of Grand Rapids) contributed to the political and economical deflation. When established African-American leadership moved out of the inner city in the 1960s, there came to exist a leadership vacuum, effectively destroying the chance to challenge the political establishment.

Despite belated efforts to address the issues that plagued the African-American community, little or no action was actually taken. Today, Delta Strategy, a network of community organizations and individuals whose work is structured to improve Grand Rapids - including the inequalities that exist in Grand Rapids - argues that after the Civil Rights Movement the condition of the African-American community actually worsened. According to Delta Strategy, the average African-American male in Grand Rapids currently makes seventy-five percent of the income of their white male counterparts and African-Americans will accumulate less than ten percent of the wealth of a comparable white family (Jared, 2002:6). These disparities perpetuate the disassociation of the races by supporting hidden thoughts that one ethnicity must succeed at the expense of others (Jared, 2002: 5-6). Thus, disparities like these go on unresolved. Lou Barnes, a representative of Delta Strategy suggests:

The divide in the Grand Rapids community is a symptom of covert racism. On the surface this type of racism appears to stem from the assumption that things have improved so much since the end of the Civil Rights era that equality has been achieved. But it conveniently ignores the fact that while the situation is much improved there are still steps to be made toward complete equality (Jared, 2002: 6).

Alfredo Gonzales may have said it best, "You don't know what it's like to be different unless you're different. We've made this steady progress toward inclusion but there is still this sense of separation" (Jared, 2002: 5).

In future research, a goal should be to explore what happened to the African-American leadership that tried to lead Grand Rapids during the Civil Rights era

and how they have impacted the surrounding areas since then. The activities of the suburban African-Americans middle class leadership are also of interest, especially their political and economical influence among local white elite. Another question of importance that should be further researched is to what degree racial issues in Grand Rapids have been integrated into the mainstream media and how active the local liberal whites have been in Grand Rapids since the decline of the Civil Rights Movement.

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Analysis of Stormwater Policy: Rogue River Watershed, Kent County Michigan



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Introduction

When people think of water pollution, the image of a large pipe discharging a toxic chemical from a factory probably comes to mind. This type is classified as point-source pollution and in the past accounted for many water pollution problems. Today it is regulated and is not as large of a problem as it had been. Now we are facing different problems that are not quite so easy to see. Increased amounts of stormwater runoff in developing and urbanized areas are discharged into rivers and streams, carrying many different types of pollutants into the water from many different sources spread over a large area. Scientists and engineers have learned to recognize that stormwater runoff can be viewed as two separate problems; water quality and water quantity. Each one can have a different effect on the receiving water body and can be addressed independently. Management of water quantity issues are best addressed during land development, whereas water quality issues can be addressed at any time. Solving the problems we face today often involves modifying existing regulations or creating new ones, in addition to educating the public on how they can help.

The purpose of this research is to summarize environmental regulations which pertain to stormwater policy in the Rogue River watershed. Watersheds are often comprised of several municipalities which implement or are affected by environmental policy in different ways. Management of our water resources is often conducted using the watershed as a management unit, so it is also important to view regulation and policy on the same level.

Background

One of the largest contributors to poor water quality today is stormwater runoff (USEPA 1994). Stormwater runoff is basically any rainfall that hits the ground and does not infiltrate. It runs off into surface water bodies such as rivers, lakes and streams. While a small amount stormwater runoff can be a natural occurrence in many undeveloped areas, it is often much more pronounced in developing and urbanized areas. In order to better manage stormwater runoff, it is important to distinguish between the quality and quantity of stormwater entering a water body. The quantity of stormwater is a fixed amount, influenced primarily by the amount of rain falling in the watershed. The amount of rainfall which enters the water body as stormwater can vary from one watershed to the next depending on certain physical characteristics of the land. The quality is influenced by the amount and types of materials transported as the rainfall flows across the ground and into the receiving waterway. In addition, water quality can be affected by airborne pollutants and particulates before it reaches the ground.

Consider some differences between developed areas and undeveloped areas. The biggest is the amount of impermeable land area. In an undeveloped area, most of the land is covered by vegetation and there are many places where rainfall can readily infiltrate rather than running off. As forested and agricultural lands are converted into urban land, much of the surface is converted from permeable soil to buildings, concrete and pavement. This offers very little open ground where rain water can infiltrate, and is much different from an area lacking development. Thus, in an urban area, most of the rainfall flows across the impermeable surfaces and into rivers and streams. While this also occurs in undeveloped areas, it happens on a

much smaller scale. The result is that during a rain event more rain fall flows into local rivers and streams in an urban area than within an undeveloped area.

Effects of Water Quantity

If the very nature of a stream or river is to convey water, how does stormwater runoff have a negative effect? The most obvious difference is the quantity of water entering the stream and the amount of time over which this flow occurs. In undeveloped areas, the rain water takes much longer to flow into streams. It moves slowly through meadows, pastures, wetlands and forests, soaking in all along the way and being slowed by vegetation covering the ground. In contrast, urban areas with impermeable surfaces act to channel water directly into streams via storm sewers. Water moving over surfaces such as concrete moves much faster, allowing much larger quantities of water to enter a stream in a shorter period of time. Streams receiving this stormwater may flood as a result. The current undercuts natural stream banks, damages the riparian area and scours the stream bottom, disturbing the organisms that occupy the stream and washing them away. Flooding can also cause erosion problems both on private property as well as around bridge crossings, costing thousands of dollars for bridge repairs and bank stabilization. Some municipalities may install concrete walls or stone in place of the natural banks to help stabilize them. These practices are not aesthetically pleasing and negatively impact the stream, further degrading it. These are a few physical results of stormwater runoff that can degrade a stream, but there are other secondary results that also affect water quality.

Effects of Water Quality

Rainfall acts to wash all of the impermeable surfaces during a rain event. Anything found on these surfaces

is transported directly into the receiving stream. Cars dripping oil, dust residue from vehicle brake pads, small particles of worn tire rubber, animal feces, excess yard fertilizer and pesticides, as well as sand and dust from streets all flow into the stream, usually with no treatment. Many organisms living in streams are very sensitive to these pollutants. Continuous exposure over time can cause their populations to be reduced or eliminated. Often the organisms affected are important primary food sources for many fish, so loss of certain fish species can also occur as a result. While clean river and stream systems contribute significantly to the economy and quality of life in their surrounding communities, degraded streams have less value.

Regulatory Overview

In newly developing areas, the management of stormwater can be a very important tool in maintaining water quality. Today, even with numerous laws in place, stormwater runoff remains a significant threat to surface water quality. Since the passage of the Water Pollution Control Act in 1948, citizens and government officials have worked to pass and enforce a variety of environmental regulations protecting surface water. Most of these regulations were aimed at eliminating untreated industrial waste and sewage. It was not until 1965 that serious work began on solving a growing problem with surface water quality in the United States. In that year, Congress created the Federal Water Pollution Control Administration and required states to begin to develop and enforce water quality standards. Even with this push from the federal government, more than ten years would pass before problems with surface water quality would get more legislative attention. In the early 1970's, it was realized that our nation's water resources were not improving.

In 1972, Congress amended the Federal Water Pollution Control Act of 1948 (also known as the Clean Water Act). Part of the amendments stated "it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985." The 1972 amendments created the National Pollutant Discharge Elimination System (NPDES), a permitting process established to reduce point-source pollution. Its original focus was on discharges from municipal sewage treatment facilities and industrial effluent discharges. By the mid-80's however, scientists recognized that although the elimination of point-source pollution sources had improved water quality, many waterways were still impaired. Research pointed to uncontrolled stormwater runoff, and Congress once again set out to address this problem. In 1987, Congress again amended the Clean Water Act and modified the NPDES system to account for stormwater runoff. It established a permitting process for certain types of stormwater discharges, in addition to calling on municipalities to develop stormwater management plans to address local stormwater issues. The NPDES program is aimed at pollution prevention, and the management plan focuses on regulating many activities aimed at preventing stormwater from becoming contaminated. This can include large city projects such as regular street sweeping, as well as regulation of de-icing chemicals, fertilizer usage and lawn watering.

The modified NPDES system was to be implemented in two phases. NPDES Phase-1 (established in 1990) was designed to address three types of stormwater-related discharges. The first is stormwater discharges associated with certain categories of industrial stormwater runoff. For example, industrial runoff could include a metal treatment facility that stores chemically

treated products in an outdoor stock yard. Rainfall washes excess treatment chemicals across the yard and into the storm sewer system, which in turn discharges directly into rivers and streams with no treatment. The second includes discharges from Large and Medium MS-4s (or separate storm sewer systems) located in municipalities with a population greater than 100,000. Sewage is conveyed to a treatment facility, while all of the stormwater runoff from city streets and parking lots is discharged directly to a river or stream without treatment. The third type is any construction activity disturbing five or more acres of land. The permit process calls for implementing Best Management Practices, (BMPs), to control soil erosion from large tracts of exposed soil. BMPs include placing structures around storm drains to prevent stormwater carrying soil from entering the system, as well as prompt re-seeding of areas as soon as construction activities cease. NPDES Phase-2 (currently being implemented) is designed to address discharges from Small MS-4s, which would include municipalities with populations less than 100,000. However, not all MS-4s are required to comply with the program. Those municipalities who are located in an "Urban Area," as designated by the United States Census Bureau, need to comply. Those small MS-4s located outside of an urban area are examined on a case by case basis as determined by the NPDES authority (DEQ). Phase-2 also adds permit requirements for certain construction activities disturbing between one and five acres of land.

Implementation of NPDES program: Federal and State Roles

The NPDES program is officially overseen by the United States Environmental Protection Agency (USEPA). However, as with many EPA-administered programs, EPA can grant

special enforcement authority to a state, allowing it to implement and enforce federal mandates. In this case, EPA acts in an oversight capacity, monitoring the activities of the authorized states. Michigan was granted this authority in 1973. The Michigan Department of Environmental Quality administers the NPDES program. They monitor permits for regulated municipalities and industrial facilities. For regulated construction activities DEQ requires a certified site operator, someone who is trained by DEQ to maintain BMPs during construction activities. DEQ then ensures that construction firms are utilizing a certified site operator.

Local Management of Stormwater

While state programs regulate a variety of activities in order to protect surface water quality from stormwater runoff, a large part of stormwater management rests with local municipalities. The NPDES program does not address stormwater quantity, which is also a significant problem for surface water. In order to prevent this from becoming a problem, some local municipalities have been requiring new developments to install stormwater detention ponds. The ponds are intended to hold rain water from the development site and allow it to slowly discharge into the stream, infiltrate or evaporate. Local ordinances can also include the use of grass ditches instead of concrete, and installing stone barriers to slow the water and prevent erosion. These ordinances are implemented by requiring those wishing to begin new construction to submit a site plan for review and approval by the local zoning officials. Certain exceptions to this system exist. In some areas, the county government is the authority for site drainage. In areas where the local waterway is a Designated County Drain, the county drain commissioner is responsible for reviewing the site plans. Local ordinances will vary slightly between municipalities.

Those municipalities required to have a NPDES permit are responsible for their stormwater management plan, which outlines prevention strategies. It is up to each municipality to decide how they will meet the requirements of the NPDES permit. However, the permit and their plan is overseen by a DEQ official.

The Rogue River Watershed

The Rogue River watershed is located northwest of the city of Grand Rapids (Figure 1). The watershed area is 167,625 acres and includes several counties and municipalities (Table 1), although the majority of the watershed is located within Kent County. The Rogue River flows south and empties into the Grand River in Plainfield Township. The river is well known as an excellent fishery and recreational stream. Currently the area is experiencing rapid growth and development and, because of this, it has been the focus of many studies on how to maintain the quality of the river in the face of this growth.

Stormwater is an unavoidable by-product of growth and development, so it is important to track changes in policy related to this issue. The Rogue River watershed is subject to several different types of stormwater regulations. Phase-1 of the NPDES program does not include any municipalities in the Rogue River watershed except as it pertains to construction activities and industrial permits. Phase-2 is currently being implemented, but again it is not likely that any municipalities will be included, and only construction activities will be impacted. Until recently, many municipalities in the watershed lacked an ordinance that was designed specifically for stormwater management. A model stormwater ordinance (GVSU-WRI 2001) has been developed and is being adopted by many municipalities to address this issue (Table 2).

Methods

The data for Table 2 (stormwater ordinance status) was obtained through telephone interviews with appropriate officials from each municipality. Data on federal and state roles in stormwater policy was obtained through both the USEPA website and DEQ website, in addition to telephone interviews with officials from DEQ. Information on the Stormwater Management Plan was obtained through telephone interviews with DEQ officials and by personally reviewing the City of Grand Rapids Stormwater Management Plan.

Conclusion

With the amount of growth and development in the Grand Rapids area and the resulting growth in the surrounding communities within the Rogue River watershed, continuous monitoring of both policies and water quality changes are critical. In a sense, the Rogue River watershed is one large experiment where new knowledge is being applied in an attempt to protect the waterway in the face of rapid growth. The Rogue River watershed is looking toward a much brighter future than other waterways in the past. The growth and development is occurring in a time where many people are aware of what causes stream degradation and also what can be done to preserve it, unlike much of the development during the past fifty years.

Several positive things have been put into practice for stormwater management in the watershed. First, there is awareness and action on the local level. Stormwater retention basins which protect rivers and streams from the quantity of stormwater entering a waterway during a rain event are being implemented in some municipalities in the watershed without state mandates. Second, ordinances which specifically address stormwater runoff and management have been or are currently

being implemented in most of the municipalities throughout the watershed (primarily those experiencing rapid growth and covering the majority land area). Practices such as these are key in protecting the Rogue during its development. However, many of the outlying municipalities with slow growth and little development have not addressed stormwater management. While this is due primarily to the lack of significant land changes within their borders, there is still development occurring.

It is unfortunate that often stormwater management does not become an issue until it has already become a problem. If citizens wish to preserve the quality of the Rogue, similar standards should be applied throughout the watershed rather than only in certain areas. In reality, the areas with very little growth and development have the best opportunity to protect the Rogue. They do not have existing development from times when stormwater management and surface water quality were not priorities. These areas have a chance to be the areas where in 10 or 20 years they can say all of their development was done with the Rogue River in mind. Will it be possible to maintain the Rogue? It will be very interesting in the coming years and decades to see if the Rogue River can maintain its reputation as a quality fishery and recreation area.

Table 1. *Counties and Municipalities of the Rogue River Watershed*

Counties	Townships	Cities	Villages
Kent	Algoma	Cedar Springs	Casnovia
Montcalm	Alpine	Rockford	Kent City
Muskegon	Cannon		Sand Lake
Newaygo	Courtland		Sparta
Ottawa	Nelson		
	Plainfield		
	Solon		
	Sparta		
	Tyrone		
	*Grant		
	*Ensley		
	*Pierson		
	*Casnovia		
	*Chester		

* Townships outside of Kent County. Not a significant contribution to watershed area.

Table 2. *Kent County Municipalities Stormwater Ordinance Status*

Municipality Name	Stormwater Ordinance Status
City of Cedar Springs	Follows county standards, done by private firm
City of Rockford	Use their own soil erosion and sedimentation ordinance, "100-year" wet ponds. This provides more flexibility than a specific ordinance
Village of Casnovia	No response
Village of Kent City	Newly passed ordinance based on model
Village of Sand Lake	No response
Village of Sparta	No specific stormwater ordinance
Algoma Township	Adopting Kent County model ordinance as written
Alpine Township	Adopted ordinance based on Kent County model ordinance
Cannon Township	Natural rivers area. Ordinance based on counties, but more restrictive. Pro-active approach. Bear Creek protection district
Courtland Township	No response
Nelson Township	Uses Natural Rivers overlay along stream corridor
Plainfield Township	Has developed their own specific stormwater policy
Solon Township	Relies on DNR / DEQ, no specific ordinance
Sparta Township	No response
Tyrone Township	Most of the township is state land, they see no need for a specific ordinance

Data obtained through telephone interviews or faxed questionnaires

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USEPA Doc. #EPA841-B-97-002A and EPA841-B-97-002B

Grand Valley State University Annis Water Resources Institute 2001

Proposed Model Storm Water Ordinance for Kent County Townships and Municipalities.
Prepared by the Kent County Drain Commissioner Storm Water Management Task Force.
Available on request from GVSU-WRI.

Thinking the Body: Sexual Difference in Philosophy

An Examination of Maurice Merleau-Ponty's Account of Embodiment in *Phenomenology of Perception*



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ABSTRACT

*Western Philosophy, for a very long time, concerned itself with the task of separating mind and body, reason and emotion, and thus men and women. As a result of women's disallowance to participate in philosophy, philosophy remained a faculty of the mind and women were relegated to the home. Maurice Merleau-Ponty, a 20th century French philosopher, brought philosophy back to the body with **Phenomenology of Perception**. In this text Merleau-Ponty offers a universal account of how humans experience embodiment. This paper examines not only Merleau-Ponty's neglect, but also philosophy's neglect of the female body: Merleau-Ponty assumes that the male body serves as the universal body, the touchstone for all descriptions of embodiment.*

Introduction

The project of philosophy has always been to understand who we are and what we know. According to many in the past, the body detracts from this, and throughout the history of philosophy the body has been regarded as inconsequential in the realm of academia, so much so that there is often hostility when talking about the body in relation to reason. Reason harbors itself within the mind, and because of this, reason is considered superior to emotion and the body because emotion is considered distracting, burdensome, cloudy, and confusing.

The body became the target of hostility during the time of Plato in Ancient Greece. Plato had a theory of forms and in this theory he postulated that there exist ideals for every concept, such as Truth, Beauty, Love, and the Good. For Plato, we may access the forms (and truth) through the mind, which must get away from the body in order to know.

Following in Plato's footsteps was Rene Descartes, a late 16th- early 17th-century philosopher who reinforced the break between mind and body when he introduced the idea of the disembodied ego *cogito* with his famous statement, *cogito ergo sum* or, "I think, therefore I am." This simple assertion achieved a sort of abolition of the role of the body in rational thought – relegating the body to a place where it had no relevance in philosophical discourse. One of the consequences of this banishment was that women were now just as unwanted in the realm of the rational because they were seen as creatures of nature and emotion. Because of this alignment, women were subsequently affiliated with the body. They then became mistresses of the forgotten – inconsequential, trivial, and irrelevant. Furthermore, their exile from reason was not the only outcome of Descartes' work: many dichotomies other than reason/emotion



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sprouted. Two of these include public/private and subject/object.

Understanding the nature of subjectivity is a crucial issue in philosophical study. Subjectivity (I will explain in more detail later) is who we are as separate from the external world, but this disconnectedness does not mean that the outside world does not factor in our subjectivity. Indeed, if the externality of the world around us takes part in forming our subjectivity, so too must our bodies. Undeniably, the body is the bridge to the outside world; here subjectivity and objectivity meet. The body is fundamental in both ontological and epistemological realms. Who we are is not merely a construction or operation of the mind; our bodies and the external realm interact with one another, and how we interpret the data we receive from our senses constitutes not only knowledge, but also being. What this means then, is that if we maintain the old ideas of distinguishing the mind and body as two separate entities and through that make the mind the seat of knowing and being, we will forget, with serious philosophical consequences, an essential dimension of the human person. As we will see, the human person is both subject and object, a combination of the thoughts and feelings evoked by outside interaction and inner reflection.

Maurice Merleau-Ponty's Conception of the Body as an Agent in the World

Maurice Merleau-Ponty, a 20th century philosopher authored a book called *Phenomenology of Perception* wherein he describes the body as an agent in the world. As he is the main focus of my research, it is important that we understand his theory of the body and its subsequent effects on philosophy and society. In his book, Merleau-Ponty describes how bodies are oriented in the world through the subject's use of perception. The bulk of my research

focuses on a chapter titled, "The Spatiality of One's Own Body and Motility." The basic premise of this chapter states that we take in the world through our perceptions; in addition, our bodies are the vital link between the internal and external. The body is the bridge between how we operate as subjects and objects. To explain this briefly and at the risk of other problems, we are subjects in that we can say "I" and know that we mean ourselves; we are objects as well in that others perceive us and can say to us, "you." Because we use bodily perception to understand the space around us, how we perceive things thusly affects how we use and dwell in space and how we perform as humans in the world.

Merleau-Ponty's discussion of motility and spatiality attempts to explain that how we understand space and move within that space directly affects how we relate to our bodies and the bodies of others, and how that relation, for him, is a way toward accumulating knowledge:

The space and time which I inhabit are always in their different ways indeterminate horizons which contain other points of view. The synthesis of both time and space is a task that always has to be performed afresh. Our bodily experience of movement is not a particular case of knowledge; it provides us a way of access to the world and the object... (162)

This passage asserts that as subjects we must always incorporate and synthesize our actual view of the world itself. We are always in motion and always occupying space, and we must not accept that taking up of space as a way of knowing; instead, we occupy space and move through time so that we may gain access to knowledge through this crucial interaction with what Merleau-Ponty above calls "other points

of view." This is important to keep in mind when thinking about the importance of sexual difference because different people experience spatiality in very different ways. A woman's body in space will not experience space and time in the same manner as a male because traditionally in society males are subjects and females are objects – meant for accepting the imposition of the subject's will.

Moving toward a knowledge of how space helps us orient our bodies in the world, I would like to offer a brief example: Imagine you are standing in a room and there is a box in your field of vision. You begin to understand the space lying between you and the box by taking a step toward it or reaching out your hand and touching it. Through this investigation of the box, you can relate this space to your body. Also, you will manipulate your body in order to make the most effective use of the space you occupy. Not only will this exploration of space aid in your comprehension of orientation, it helps you "see" objects around you so that you will grasp motility. Of this Merleau-Ponty writes:

Consciousness is being-toward-the-thing through the intermediary of the body. A movement is learned when the body has understood it, that is, when it has incorporated it into its 'world', and to move one's body is to aim at things through it; it is to allow oneself to respond to their call, which is made up independently of any representation. In order that we may be able to move our body toward an object, the object must first exist for it, our body must not belong to the realm of the 'in-itself'. (M-P 160-161)

As we try to understand our spatiality, our motility, and what these mean, we incorporate our bodies' orientation into

our experiences of the world. As a result of comprehending the body as in-the-world, it is important that we now realize our subjectivity comes from how we inhabit the world through the body. What we experience directly affects knowing and being – or rather, epistemology and ontology.

It is important that I familiarize you with Maurice Merleau-Ponty so that I may properly demonstrate the need to investigate sexual difference. We now understand Merleau-Ponty's work is beneficial because he brought philosophy back to the body instead of it being ensnared in the mind. In addition to work in spatiality and motility, Merleau-Ponty theorizes about human sexuality. Layering what Merleau-Ponty states about sexuality over movement, we will be able to better understand why his theories are problematic.

Merleau-Ponty Assumes That This is a Universal Account of the Body

Throughout the chapter from which I quoted, Merleau-Ponty describes the human subject as undoubtedly male, and this is clearly demonstrated in "The Body in Its Sexual Being," another chapter from *Phenomenology of Perception*. His account of the neurological disorders of Schneider, a male patient to whom Merleau-Ponty refers recurrently in the book, extends into the effects these disorders have on his sexuality. What Merleau-Ponty discovers of Schneider he applies to all humans. How does Merleau-Ponty know that what is good for the proverbial goose is good for the gander? He does not know, and this is where the problem of sexual difference arises.

Going back to how our experiences in the world affect our very being and how we know, how can it be said that an account of male being is satisfactory for application to a female body? Clearly through our social interactions

throughout life and our upbringing we know that male and female bodies do not share the same experiences. The most obvious examples of course are menstruation and childbirth. Different sexes call for different accounts of experience; thus the need of a feminist rethinking of the body.

Judith Butler's and Iris Marion Young's Redescriptions of the Body **Iris Marion Young**

In rethinking the female body, we must rethink all aspects of it in order to underscore the gendered nature of any philosophy of the body. In an article entitled "Throwing Like a Girl" from the book *The Thinking Muse: Feminism and Modern French Philosophy*, Iris Marion Young, a philosopher, discusses the motility of the female body and its stigmas as compared to the male-centered account of human motility as illustrated by Merleau-Ponty.

What troubles Young about the idea of "throwing like a girl" is that we do not examine the factors that would affect a girl's motility as related to throwing. It is almost as if throwing like a girl is a biological impairment; girls are born with a certain kind of throwing capability, and it is our job as members of Western society to fix them and teach them how to throw the "biologically correct" way, like a boy.

Ultimately, Young believes that the idea of throwing like a girl stems from a girl's motility. To throw like a girl basically means that the person is not using the body's potential momentum to throw the ball; instead one only uses the throwing arm. Young asserts that this limiting of movement comes from societal restrictions placed upon girls as they mature. Though these are generalizations, I think it is safe to assume that many times in a girl's life in Western society she will hear, "that's not very lady-like", or "act like a lady", or "ladies should sit with their legs

crossed." A girl's movement is to remain conservative, limited to only what is utilitarian. It is my idea that a possible result of this limiting, affects how a woman will conduct herself in the future. She may become afraid of any movement that would attract negative attention to her as perhaps her movements did in the past – the worst attention being rape.

Where Iris Marion Young's account of spatiality and motility in relation to Merleau-Ponty's philosophical account lies on a more practical plane of application, Judith Butler offers more of a theoretical approach to Merleau-Ponty in regards to his chapter on human sexuality in *Phenomenology of Perception*.

Judith Butler

Judith Butler supports Maurice Merleau-Ponty's theory of sexuality; she believes it serves a political purpose for feminism because his account of sexuality bases human sexuality within a socio-historical context and point of origin rather than a biological one. In an article from *The Thinking Muse: Feminism and Modern French Philosophy* titled, "Sexual Ideology and Phenomenological Description: A Feminist Critique of Merleau-Ponty's *Phenomenology of Perception*," Butler says:

Theories of sexuality which tend to impute natural ends to sexual desire are very often part of a more general discourse on the legitimate locations of gender and desire within a given social context. The appeal to a natural desire and, as a corollary, a natural form of human sexual relationships is thus invariably normative, for those forms of desire and sexuality which fall outside the parameters of the natural model are understood as unnatural and, hence, without the legitimation that a natural and normative model confers. (Butler 85)

Here, Butler is critiquing heterosexist culture, because where there exists an established norm, those who do not fit the norm are, quite simply, sexually abnormal. If we refuse to establish a singular sexual norm, those who were once “outsiders” will no longer be considered illegitimate or unnatural. In accepting other sexual orientations as normal occurrences in the world, we also allow for a greater number of accounts of embodiment.

Butler examines the chapter from Maurice Merleau-Ponty’s *Phenomenology of Perception* entitled, “The Body in Its Sexual Being” from a point of view that sexuality is coincidental with existence in that is “referential” and not “solipsistic”(Butler 87). What Butler is asserting here is that human sexuality forms in reference to other beings, it is not a process taking place solely within us. This is important to remember because a normative description of sexuality such as Merleau-Ponty offers only speaks from a male reference point. He neglects to offer a female point of reference for sexuality and is therefore saying that all human sexual reference is the same, just as his account of motility and spatiality is a universal one. One cannot declare that there are two different sexes and in the same breath claim the sexual reference for both males and females is the same.

In addition to this, Butler claims that, “Not only does Merleau-Ponty fail to acknowledge the extent to which sexuality is culturally constructed... his descriptions of the universal features of sexuality reproduce certain cultural constructions of sexual normalcy” (Butler 92). She then goes on to mention Schneider and Merleau-Ponty’s description of Schneider’s sexuality and sexual interest. According to Merleau-Ponty, Schneider’s disinterest in the opposite sex indicates his abnormality. This demonstrates Merleau-Ponty’s slippage into a normative view of

sexuality, which I will address momentarily. In “The Body in Its Sexual Being,” Merleau-Ponty’s description of Schneider’s sexual incapability focuses on his disinterest in the sexual object – the female form. Butler uncovers the problem in this when she writes,

Central to Merleau-Ponty’s assessment of Schneider’s sexuality as abnormal is the presumption that the decontextualized female body, the body alluded to in conversation, the anonymous body which passes by on the street, exudes a natural attraction. This is a body rendered unreal, the focus of solipsistic fantasy and projection; indeed, this is a body that does not live, but a frozen image which does not resist or interrupt the course of masculine desire through an unexpected assertion of life. (Butler 92-93)

One of Butler’s main concerns with Merleau-Ponty’s discussion of sexuality is that, as my project reminds us again and again, he forgets to acknowledge sexual difference. Not only does he neglect this crucial aspect of sexuality, he creates a contradictory account of the nature of sexuality. While Merleau-Ponty states that sexuality is socially prescribed and determined, he contradicts this argument with his account of Schneider. As we recall from earlier, Schneider was Merleau-Ponty’s patient upon whom he conducted various tests. These tests included monitoring his sexual interests and prescribing normality by way of showing Schneider pornography, questioning him about his physical reactions to contact with women, and asking his opinion of random women on the street. The problem with his prescribing normality is that the norm is heterosexuality, and positing the norm as heterosexuality means Merleau-Ponty states two different points of view. According to him, first, sexuality is a

social construction and therefore there are many possibilities as to sexual orientation based on a society; and second, heterosexuality is the only normal sexual practice, where the woman is the object of male desire.

Not only does Merleau-Ponty dehumanize female sexuality through his assertion of it as other-ness, he assumes through his description of the body’s spatiality and motility that all aspects of male and female embodiment are the same, so female sexuality need not be elaborated.

Butler suggests a feminist phenomenology of sorts as a way of remedying the social situation Merleau-Ponty created. She writes, “For a concrete description of lived experience, it seems crucial to ask *whose* sexuality and *whose* bodies are being described...” (98). This is such an important question because it addresses the root of the problem of sexual difference. If a man is discussing a body, we have to ask whose body of which he speaks because his frame of reference stems from his experience of spatiality as a *male*. And, this is important to keep in mind, not only must we be aware of sexual difference when we question whose body, we must remain conscious of other accounts of embodiment such as sexual orientation and race. For example, an African-American woman will not experience the world (and spatiality) as will a Caucasian woman. To return to Butler though, while ultimately she applauds Merleau-Ponty for his declaration of human sexuality as a historical and social construction, she prompts us to recall his neglect of sexual difference and our need for vigilance if we are to successfully formulate a phenomenology of the female.

Conclusion

The body puts us back in the world and it is our bridge to knowledge and being. Because of this, philosophy must be

attentive to how context is formative of the notion of embodiment. Merleau-Ponty's account of the body shows us that embodiment is crucial in understanding who we are and what we know; but sex and gender must be a central feature of the discourse on the body. If they are not, we neglect half of the world's population. It is not enough that we understand the connection between mind and body, subjectivity and objectivity, and how only a universal body moves and relates to the world in a certain way. We must not be satisfied with current modes of thought concerning embodiment. Philosophy must account for how women's bodies move and are experienced differently in a fully analyzed and accounted for social, political, and cultural context. By doing so, we will open new doors, right any wrongs that occurred as a result of neglect, and make unprecedented progress that will affect not only this realm of academia, but also all future scholastic endeavors.

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Typing the Type Site: Analysis and Comparison of Chipped Stone Projectiles from the Norton Mounds Site with Other Middle Woodland Archaeological Sites



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ABSTRACT

In archaeology, projectile points and other chipped stone tools are important for identification and interpretation of site chronology (dates of occupation), site function (subsistence practices for example), and establishing relationships with other sites and regions. The morphometric and raw material attributes of projectile points from the Norton Mounds (20KT1) site are described and compared to tools from other sites in Michigan and the Midwest dating to the same time period. The outcome of this analysis is the first in-depth documentation of these materials.

Introduction

This paper examines the Middle Woodland projectile points from the Norton Mounds (20KT1) archaeological site with the purpose of providing a comprehensive description of these objects, and to test hypotheses about projectile point morphology and use during the Middle Woodland. The term Middle Woodland refers to the period when much of eastern North America appears to have been influenced by the Hopewellian cultures in Ohio and Illinois dating between 200 B.C. and A.D. 400 (Fitting 1975). The Middle Woodland era in Michigan reflects patterns of elaborate burial mounds (especially in Southern Michigan), and the importance of fishing (Fitting 1975, Kingsley 1999).

The Middle Woodland Norton Mounds site is located on the south bank of the Grand River near modern day Grand Rapids and dates between the first century B.C. and the second century A.D. (Figure 1). The site was excavated in 1962-1964 by archaeologists from the University of Michigan (Griffin, Flanders and Titterington 1970). In Griffin and Flanders' account of the Norton Mounds, a certain series of projectile points were first identified as "Norton Points." Anta Montet-White (1968) described the characteristics of the Norton type by stating that,

Norton Corner-notched is a long and narrow blade. The notches are narrow. They are oriented diagonally toward the long axis of the blade. The notching flakes are detached from the corner of the base. This mode of notch placement is identical to that of the typical Snyders point. It is a way to obtain a medium-sized stem from a wide preform (White 1968: 71).



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Despite White's initial efforts, Norton Points from the type site and other sites still have not been fully studied and described in professional literature. Additionally, Justice (1987) only briefly mentions Norton Points as morphometric correlates of Snyders points. This paper presents morphometric, and non-metric attributes of Norton Points from the type site, and compares these with projectile points from the Prison Farm site (20IA58) in Michigan, which dates to the same time period (2000 years \pm 200). Other Middle Woodland sites where small numbers of Norton Points have been found include the Smiling Dan, Holding, and Steuben sites in Illinois, and the Schultz site in Michigan.

The Middle Woodland Prison Farm site, located in Ionia, Michigan, produced a number of projectile points which were compared to the points from Norton Mounds. Unlike the Norton Mounds site, which is a burial mound site, the Prison Farm site is a habitation or living site. Thus, the projectile points found from Prison Farm are much more heavily worn and reworked than the projectile points from Norton Mounds. One hypothesis is that projectile points from Norton Mounds were made for the sole purpose of burial rites, which would ensure the use of these points for the deceased in the afterlife. For this reason, the projectile points found in the mounds, for the most part, appear to be wholly intact and skillfully constructed, and not worn or reworked from heavy use.

Background

The term "Middle Woodland" refers to the period when much of eastern North America was influenced by Hopewellian centers in Illinois and Ohio dating between 200 B.C. and A.D. 400 (Fitting 1975). Within Michigan, some variation occurs during this



Figure 1. Map of Norton Mounds and Prison Farm Sites

period with southern Michigan Middle Woodland manifesting closer ties to the Hopewellian centers, while northern Michigan developed along a different trajectory, with less influence from the south. Within southern Michigan, archaeologists have divided the area into two distinct regional traditions and several temporal phases (Kingsley 1999). The "Norton Tradition" is used to signify Hopewell expressions in western

Michigan, and the "Saginaw Tradition" refers to the Hopewellian expressions in the Saginaw Valley region. The Norton Tradition is further broken down into two temporal phases. The first, the Norton phase, represents initial Middle Woodland in the region, which dates from the first century B.C. through the second century A.D. (Brashler 1998). Following the Norton Phase, the Converse phase is hypothesized to

encompass the later portion of Hopewell occupation, from A.D. 200 to 400 (Griffin, Flanders, and Titterington 1970: 189, Kingsley 1999). Recent excavations at the Converse site (20KT2) suggest that the Converse Phase may end by A.D. 300 and overlap to some extent with the Norton Phase (Brashler 2002).

The Norton Tradition is thought to be related to or derived from the Illinois Havana Tradition (Kingsley 1999:148). The mortuary, ceremonial, and technological advances seen at Norton Mounds are compatible with other Middle Woodland Illinois sites. Mound burial was the preferred mortuary custom. Almost every mound consisted of a rectilinear subfloor central tomb or crypt, which consisted of several different kinds of ceramics and lithics that most likely assisted the deceased in the afterlife. A "ramp" or doughnut-shaped raised area surrounded the tomb. The soil that was used to construct this ramp differed from the soil from the submound level and the mound cap. Additionally, the ramps and crypts were presumably covered with a layer of bark. These structures were then covered with the final mound cap, which concluded the mortuary sequence (Kingsley 1999: 161).

Norton Mounds, as well as other Norton Tradition sites, display similar ceramic styles found in contemporaneous Illinois Middle Woodland sites. Havana ware, which consists of zoned dentate stamping and straight vertical lines on the rim, represents the vessels present at Norton Mounds. The lithic industry of Norton Mounds is also similar to Middle Woodland Illinois sites. Norton Mounds displays a series of artifacts that indicates a division of labor, with some emphases on males and supernatural affairs, beliefs and relationships. These artifacts are similar to those from other mound group sites in Illinois such as the Knight

Mound group (Griffin, Flanders and Titterington 1970).

The type site for the Norton Phase of the Norton Tradition is the Norton Mounds site. The Norton Mound Group is located in Sections 3 and 4 of Wyoming Township, Kent County, Michigan (Griffin, Flanders, and Titterington, 1970: 127). Norton Mounds consists of 17 mounds that are "arranged in two parallel lines with the three largest mounds in a line approximately parallel to and 700 feet south of the Grand River and the other 14 mounds in a curved line immediately behind the largest mounds" (Griffin, Flanders, and Titterington, 1970: 127). With the permission of the Archaeological Committee of the Kent Scientific Institute (now the Grand Rapids Public Museum), W.L. Coffinberry, Professor E.A. Strong, and Dr. J.C. Parker first excavated a total of seven mounds in the Norton Mounds in 1874. In 1915, H.E. Sargent, who was the Director of the Grand Rapids Museum, excavated two more of the Norton mounds. Sargent's excavation upped the total number of excavated mounds to nine.

In 1936, the Norton Mound Group was included in a city park and in the 1950's, Interstate 96 was originally mapped to run directly through the park, which would have destroyed the mounds, but was fortunately changed to run next to the mounds (Griffin, Flanders, and Titterington, 1970: 129). As a result of the efforts of the Grand Rapids Public Museum, the Norton Mounds site has been named a National Historic Landmark Site by the National Park Service (Griffin, Flanders, and Titterington, 1970: 131). With the support of the Public Museum of Grand Rapids, archaeologists from the University of Michigan, led by Richard E. Flanders, excavated the rest of the Norton Mounds in 1962-64.

Flanders and his group found a great number of artifacts; however, the focus of this research is on the Norton Points, which were found in the burial mounds. According to Flanders and Griffin (1975: 186), "one of the most distinctive burial features at the Norton Group was the placement of a group of points or knives with certain burials" (Griffin, Flanders, and Titterington, 1970:186). From their report on the Norton Mounds, the term "Norton Points" was given to a select type of projectile points. Archaeologists practicing in the Midwest have relied on this typological description, but the projectile points have never been fully studied and described in detail. As a result, there is some uncertainty regarding a precise definition of a Norton Point.

Anta Montet-White differentiates Norton points from other similar Middle Woodland types on the basis of morphological criteria, including overall length, stem length, width, thickness, and blade shape. The criteria she uses to differentiate Nortons from other Middle Woodland points is a long, narrow blade that corresponds "to the class of subovate preforms intermediate between the ovate and the subtriangular classes" (Montet-White 1968: 69). In spite of White's early definition of Norton Points, no study has critically evaluated the difference between Nortons and other Middle Woodland points in Michigan. For example, at the Saginaw Valley Middle Woodland Schultz site, Fitting (1972) describes only expanding stem and notched forms-he does not extend the term Norton to any of these. Brashler, Laidler, and Martin (1998) define a series of Norton Points from the Prison Farm site but they appear a minority type within a large sample of smaller heavily curated, reworked points.

Methodology

In an effort to better define the attributes of a Norton Point, a series of metric and non-metric measurements were recorded for projectile points from the type site. In archaeology, the “type site” is the place where a particular group or type of artifacts is first defined. A type is a class of artifacts which share a consistent or recurring cluster of attributes. Attributes, which may be thought of as properties of an object that cannot be reduced, can be either metric or non-metric. The metric measurements that were used include the weight of the point, length, width, and thickness of the entire projectile point, blade length, notch openings, notch depths, basal width, haft/stem width, and stem length. Figure 2 illustrates how several of these metric measurements were taken. Appendix A provides the raw metric data for the assemblage from Norton Mounds.

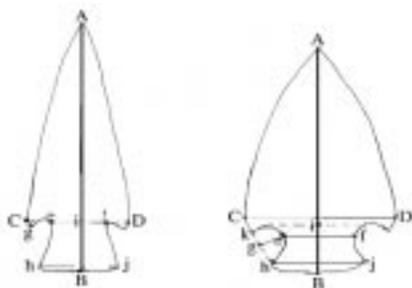


Figure 2. Method of Measuring Stemmed Points:
 A-B Length; C-D, Blade or Maximum Width; e-f, Haft/Stem Width; h-j, Basal Width; i-B, Stem Length; k-h, Notch Opening; g-e, Notch Depth (Barb Length)

In addition to these metrical attributes, several multistate, non-metric attributes were coded in order to describe the shape, chipping patterns, and raw material choices selected by the point makers. One non-metric attribute was the raw material source (type of rock/chert) of the projectile point. Additionally, using Binford’s (1963) proposed attribute list for the description and classification of projectile points, the following categories were used. The shape of the blade, transverse section of the blade (which is observed at the midpoint of the blade), longitudinal section of the blade, symmetry of the blade, chipping pattern, shape of the base, and the juncture of the haft were all recorded. Appendix B provides the raw non-metric data from Norton Mounds.

The above metric and non-metric attributes were also recorded for a sample of projectile points from the Prison Farm site. Using these measurements, a comparison between Norton Mound and Prison Farm projectile points was conducted. Data were recorded on an Excel spreadsheet and descriptive statistics were calculated using a TI 83 hand held calculator. Final data manipulation was confirmed using SPSS version 11.0. Initial comparisons between the Prison Farm and Norton Mounds samples were done by plotting significant metric attributes on charts derived from the Excel data (see Figures 3-7).

Based on comparisons between the two samples from Norton Mounds and

Prison Farm, a second projectile point is defined for the Middle Woodland. For these points, the term, “Affinis Nortons,” has been assigned to a certain type of projectile point. An Affinis Norton Point is very similar to a Norton Point in regard to the basal width, haft/stem width, and stem length. An Affinis Norton is a smaller and frequently reworked companion type to the formal Norton Point type. As a result of the constant use and reworking of a point, the blade length, and blade shape are significantly modified. Tables comparing and contrasting the Norton Points, Affinis Norton Points, and possible Norton Points (points that *almost* fit the criteria for being a Norton Point) from the Norton Mounds and Prison Farm sites are presented below.

Results

Chert Raw Material: Table 1 indicates that Norton Points from the type site were made from several different types of chert, including Bayport, Flint Ridge, Wyandotte, and even local white glacial till. Wyandotte, a chert from southern Indiana, was the most common, with minor amounts of material from other localities. Bayport is a Michigan chert raw material source from the Saginaw Bay area, and Flint Ridge is a chert source in central Ohio. Prison Farm points differ in the location or source of raw material, with the majority of the points being made of the Michigan Bayport chert, with small quantities of so called exotic chert from Ohio, Illinois and Indiana represented (Brashler,

Table 1. Raw Material Attributes of Projectile Points from Norton Mounds and Prison Farm

	Bayport	Flint Ridge	Glacial Unknown	Wyandotte	Unknown	Total
Norton Mounds	6	1	1	9	1	18
Prison Farm	5	1	1	1	1	9
Total	11	2	2	10	2	27

Laidler and Martin 1998). A Chi-Square test was conducted to determine the significance of the variation in chert types used at the two sites but because of the small sample size, the assumptions for Pearson's Chi-Square tests for minimum expected count were violated. No further tests were performed on other tables due to small sample sizes.

As displayed by Table 1, Wyandotte chert constituted fifty percent of the total raw materials from Norton Mounds. Conversely, roughly 55 percent of the total raw materials from the Prison Farm site consisted of Bayport chert. This suggests that the materials from the Norton Mounds site are from sources farther away and are perhaps tied to ideological or exchange practices less evident at Prison Farm.

Non-metric Attributes: For the points from Norton mounds, the shape of the blade tended to be primarily triangular with a few occurrences of a slightly ovate blade. Meanwhile, the transverse sections of the blade were mostly biconvex, with plano-convex, and biplano transverse sections also present. As for the longitudinal sections of the blade, most were ovate or triangular, with a few being either plano-convex, asymmetrically biconvex, or excurve. Furthermore, all the blades were symmetrical. Expanding scars and conchoidal scars were the only two types of chipping patterns. Base shapes only consisted of either a straight base or a subconvex base. Last of all, the junctures of the haft element were all coincidental-basal junctures except one, which was a lateral-coincidental juncture.

For the points from Prison Farm, the blade shapes tended to be mostly triangular, with excurve and incurvate blade shapes also occurring. The transverse sections of the blade were overwhelmingly biconvex with biplano, convexo-triangular, and plano-convex

blade shapes representing the rest of the sample. The longitudinal sections from the Prison Farm points were mostly biconvex. Several were plano-convex and only one was asymmetrically excurve. Meanwhile, all the blades were symmetrical, while the chipping patterns for the points were all secondary chipping patterns with the exception of one point, which had conchoidal scars. Only subconvex base shapes were present. The junctures of the haft element slightly varied among Prison Farm projectile points. Unlike Norton Mounds points, most of the points at Prison Farm were lateral-coincidental, with coincidental-basal junctures and lateral-lateral junctures representing the rest of the sample.

Furthermore, Norton Points and Affinis Nortons were also compared. Non-metric attributes of Prison Farm Affinis Norton points are different than those Norton Points at Norton Mounds,

particularly the shape of the blade and the longitudinal section of the projectile (Table 2). Both of these attributes are likely to have been modified by the significant amount of re-tooling and edge maintenance that appears to have occurred with the Prison Farm points. In most of the other non-metric attributes, there is a strong similarity between the Prison Farm and Norton Points, excluding the chipping patterns. The Prison Farm habitation site illustrates secondary chipping patterns while Norton Mound points have primary chipping patterns, such as expanding scars and conchoidal scars.

The blade shapes of most Norton Points (83%) are triangular. The Affinis Nortons, meanwhile, display more excurve than triangular blade shapes. The reworking of the Affinis Nortons can contribute to this difference in blade shape. The longitudinal sections of these projectile points exhibit much greater

Table 2. *Non-metric Attributes of Norton Points and Affinis Norton Points*

	Norton Points	Affinis Points	Total
Blade Shape			
Triangular	15	5	20
Ovate	3	-	3
Excurve	-	6	6
Incurve	-	1	1
Total	18	12	30
Longitudinal Sections			
Ovate or Triangular	15	-	15
Plano-Convex	1	-	1
Asymmetrically Biconvex	1	-	1
Excurve	1	-	1
Biconvex	-	12	12
Total	18	12	30

Table 3. Metric Attributes of Norton Points from Norton Mounds and possible Nortons from Prison Farm.

Norton Mounds					Prison Farm				
N	Metric Attributes	Norton Point Ranges	Mean	S	N	Metric Attributes	Prison Farm Ranges	Mean	S
18	Length	52-92 mm	71.831	9.79	9	Length	27-91 mm	59.033	15.596
18	Width	34-51 mm	42.537	3.906	9	Width	21-51 mm	35.967	7.052
18	Thickness	7-11 mm	9.258	0.724	9	Thickness	4-16 mm	10.078	2.655
18	Blade Length	41-80 mm	60.422	9.609	9	Blade Length	8-78 mm	43.022	17.042
18	Basal Width	19-31 mm	25.242	2.793	9	Basal Width	16-33 mm	24.712	4.037
18	Haft/Stem Width	15-21 mm	18.172	1.381	9	Haft/Stem Width	10-24 mm	17.253	3.25
18	Stem Length	7-15 mm	11.032	1.577	9	Stem Length	8-17 mm	12.731	2.08
35	Notch Openings	2-9 mm	5.933	1.335	18	Notch Openings	4-11 mm	7.408	1.396
33	Notch Depths	4-13 mm	8.582	1.541	18	Notch Depths	2-10 mm	6.006	1.589
18	Weight	14-35 g	24.261	5.035	9	Weight	0-43 mm	17.678	12.243

differences. Eighty-three percent of Norton Points were ovate or triangular. Conversely, all of the Affinis Nortons are biconvex. These differences can also be the result of the re-tooling or reworking of the Affinis Nortons.

Metric Attributes: Based on the points from the Norton Mounds site, the ranges of metric attributes of a Norton Point can be defined and are presented in Table 3. Data for a sample of possible Norton Points from Prison Farm is also presented.

The metric ranges for Norton Points and possible Nortons from Prison Farm were found by finding the 2-sigma standard deviation of the mean. First, the standard deviation was multiplied by two. Then this number was added and subtracted from the mean of an attribute, thus presenting a 95 percent confidence interval around the mean of each attribute. For example, it can be said that we are 95 percent confident that the true mean length of a Norton Point is between 52 and 92 millimeters.

The means of the length, width, blade length, basal width, stem width, notch depth, and weight are larger for Norton Points from Norton Mounds than they are for possible Norton Points from Prison Farm. The fact that most of the metric measurements from Prison Farm are smaller than Norton Points could correlate to Prison Farm being a

habitation site, where tools are manufactured and reused extensively for survival purposes. At Norton Mounds, points may have been manufactured for the sole purpose of burial with the dead.

Furthermore, the means for the thickness, stem length, and notch openings of Prison Farm points are larger than the means for Norton Points. This could be attributed to the type of material found in each site and the use of the projectile points. Norton Mounds possesses more exotic chert than Prison Farm, and the points from Norton Mounds are constructed to lay in burials while the points from Prison Farm are made for survival.

Scatterplots: As mentioned earlier, scatterplots in Excel were used to compare the metric attributes of Norton Mound and Prison Farm points. Several metric attributes were used, such as length, width, stem length, stem width, blade length, basal width, and thickness. These scatterplots display a visual comparison between Norton Mound and Prison Farm points. Figures 3-7 illustrate these differences.

Figure 3 shows an expected linear relationship between the length and width of these projectile points. The Affinis Nortons, on average, are the shortest in length and are the thinnest. The possible Nortons from Prison Farm

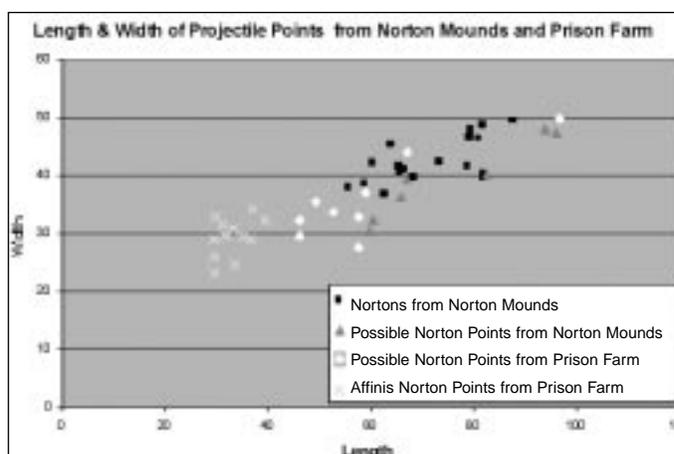


Figure 3. Scatterplot of the Length and Width of Norton Mound and Prison Farm Points

are shorter in length and thinner than both the possible Norton Points and Norton Points from Norton Mounds. Figure 3 reinforces the differences in projectile point style between the two sites. The points from Norton Mounds are larger in length and width than the Prison Farm points, which have been reworked.

Figure 4 illustrates the vast difference between the much shorter blades of Affinis Nortons and the longer blades of Norton Points. Also, it is important to notice that the possible Nortons from Prison Farm have a shorter blade length, on average, than possible Norton Points from Norton Mounds. Both of these facts, once again, strengthen the theory that the points from Norton Mounds have a longer blade length than points from Prison Farm because the points from the habitation Prison Farm site have been reworked. When re-sharpening of a tool is conducted, the morphology of the blade will change, but the stem width and stem length will not. Since the stem length is less likely to be impacted by reworking, there is not much of a significant visual difference between the average stem lengths of these projectile points.

The close pattern of Norton Point and Affinis Norton Point basal widths is illustrated in Figure 5. Only two Affinis Nortons fall outside of the range of Norton Point basal widths; however, even these two Affinis Nortons are only 1-3 millimeters outside of the Norton Point range. However, the basal widths of the Affinis Nortons, as a group, tend to be a little smaller than Norton Points. This could be due to reworking. The basal width and thickness of projectile points from Norton Mounds are very closely arranged. Meanwhile, the points from Prison Farm are more dispersed, probably due to the reworking of each point.

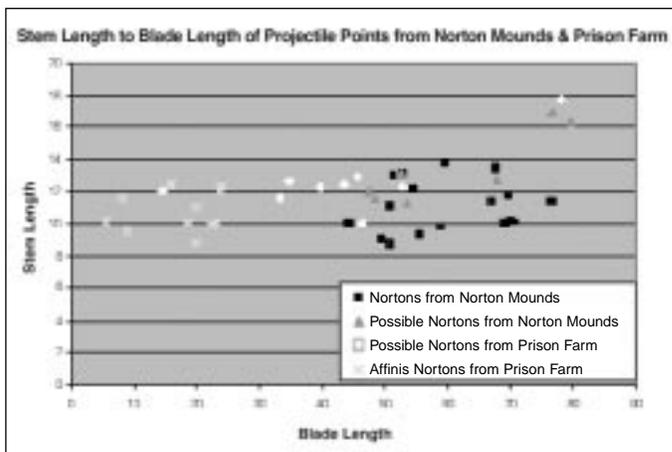


Figure 4. Scatterplot of Stem Length and Blade Length of Norton Mound and Prison Farm Points

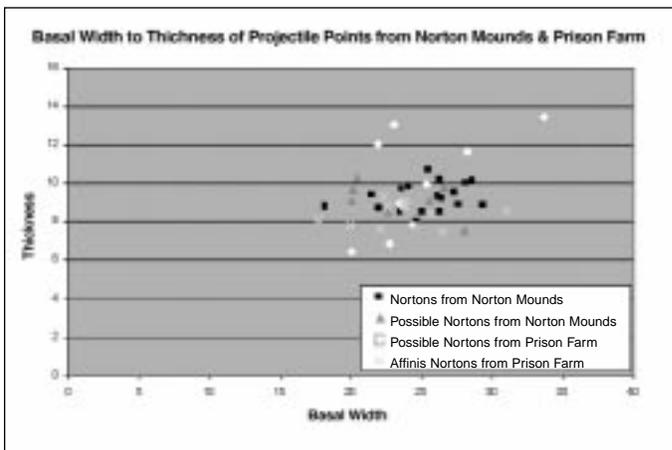


Figure 5. Scatterplot of Basal Width and Thickness of Norton Mound and Prison Farm Points

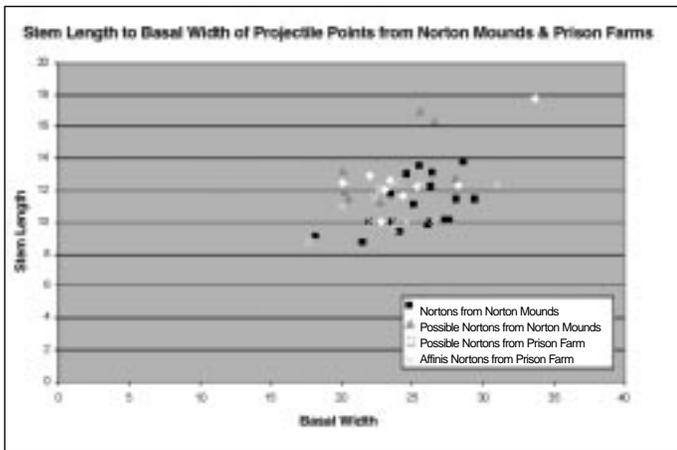


Figure 6. Scatterplot of Stem Length and Basal Width of Norton Mound and Prison Farm Points

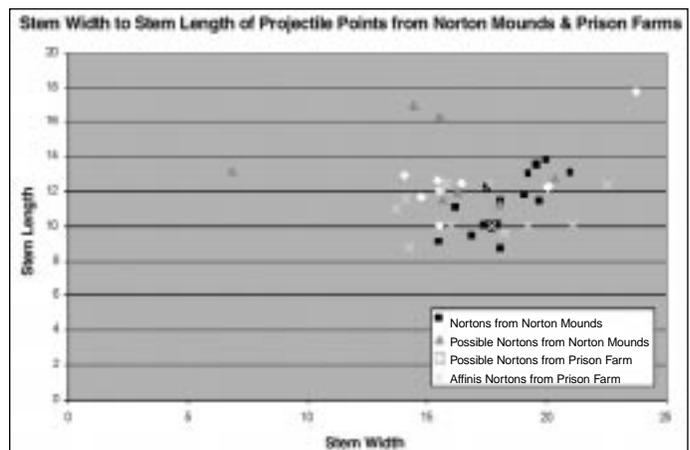


Figure 7. Scatterplot of Stem Width and Stem Length of Norton Mound and Prison Farm Points

Similar to Figure 5, Figure 6 shows and expresses the relationships between the basal widths of these projectile points. It also portrays the striking similarities in stem lengths between Norton Points and Affinis Norton Points. Every Affinis Norton Point's stem length is within the boundaries of the Norton Point stem lengths. Especially since stem length is less likely to be affected by modification, the belief that an Affinis Norton Point is a companion type to the Norton Point type is further supported.

The relationships between the stem lengths of projectile points are displayed by Figure 7 also. The stem lengths of all of the Affinis Nortons fall within Norton Point boundaries. Furthermore, most of the stem widths of the Affinis Nortons are also within the boundaries of Norton Point stem widths. Similar to stem length, stem width is also less likely to be affected by the modification of a point. This fact, coupled with stem width and stem length similarities between Affinis Nortons and Norton Points, ultimately suggests that an Affinis Norton Point is closely related to a Norton Point.

Discussion

The 1960's excavation of the Middle Woodland Norton Mounds site revealed the first identification of a Norton Point (Figure 8). Later, Anta Montet-White first described the characteristics of a Norton Point. However, Norton Points from Norton Mounds and other sites have not been studied in detail. The significance of this research is the first in-depth report of the metric and non-metric characteristics of a Norton Point. Furthermore, the introduction of another type of projectile point, an Affinis Norton Point, has been presented.

The Norton Mounds site bears mostly the southern Indiana Wyandotte chert, while the Prison Farm site exhibits more of the Michigan Bayport chert. This suggests that the chert raw materials from the Norton Mounds site are from distant locations and are probably used for ideological or exchange practices. The Prison Farm occupation site, on the other hand, used chert material that was more easily collected and used for survival purposes.

Non-metric measurements among Norton Mound and Prison Farm points displayed many similarities and variations. The majority of Norton Mound and Prison

Farm points had triangular blade shapes. The blades from both sites consisted mainly of biconvex transverse sections. The longitudinal sections of both sites differed, however. Norton Mound points were mostly ovate or triangular, while Prison Farm points were overwhelmingly biconvex. These differences could be due to the reworking of points done at Prison Farm. Both sites portrayed blades that were mostly symmetrical.



Figure 8. Norton Points from Norton Mounds

Chipping patterns between the two sites differed markedly though. Norton Mound points, which were made for the sole purpose of burial, displayed primary chipping patterns, while Prison Farm points possessed secondary chipping patterns due to the constant re-tooling and reuse. Both sites, nevertheless, shared mostly subconvex base shapes. The juncture of the haft element represents another difference between the two sites. Norton Mounds displayed mostly coincidental-basal junctures, while Prison Farm displayed mostly lateral-coincidental junctures.

As for the metric attributes, the mean for most of the measurements from Norton Mounds was larger than the means from Prison Farm. This could correlate to the Norton Points being used for burial purposes. Only the attributes of thickness, stem length, and notch openings were larger among Prison Farm points than Norton Mound points. This could be due to the type of chert used at each site.

Based on non-metric and metric comparisons between the two samples from Norton Mounds and Prison Farm, an Affinis Norton Point (Figure 9) is identified. Fittingly, Montet-White (1968: 50), explained that “the shape and size of the stem has long been recognized to be valid sorting criteria for projectile points.” Hence, an Affinis Norton Point is very similar to a Norton Point in regards to the haft/stem width, stem length, and basal width. Moreover, an Affinis Norton is a smaller and frequently reworked companion type to the formal Norton Point type. The difference comes from the constant use and reworking of a point in which the blade length and blade shape are significantly modified.

The blade shapes of most Norton Points are triangular, while Affinis Nortons have more excurvate blade shapes. The reworking of the Affinis Nortons can contribute to this difference

in blade shape. The longitudinal sections of these projectile points exhibit much greater differences. Most of the Norton Points were ovate or triangular, whereas all of the Affinis Nortons are biconvex. These differences can also be the result of the reworking of the Affinis Nortons.

Once again, the Affinis Nortons are shorter in length and blade length, and are slightly thinner than Norton Points. The basal width, stem length, and stem widths of Affinis Nortons and Norton Points are very similar. Since stem length and stem width is less likely to significantly change through reworking, the theory that an Affinis Norton Point is closely related to a Norton Point is further supported.



Figure 9. *Affinis Norton Points from Prison Farm*

In conclusion, these results must be qualified due to a small sample size and considered preliminary. A more comprehensive analysis of points from Prison Farm and other Middle Woodland sites needs to be undertaken to test the hypotheses proposed here. Comparisons with several more Middle Woodland sites are needed, as well as running more statistical analyses and conducting a more intensive study of

chipping or flaking patterns. We also need to examine the relationships between Affinis Norton Points and Affinis Snyder Points so that points from Michigan can be put into a broader, regional perspective. Despite the small samples, however, this paper advances our understanding of an important artifact category for the Middle Woodland time period in western Michigan.

Appendix A. Metric Attributes for Projectile Points from Norton Mounds

#	Mound/ burial #	Raw Material	Weight	Length (G)	Width (mm)	Thick- ness	Blade ness	Basal L.	Haft/ W.	Stem Stem W.	N.O. A L.	N.O. B	N.D. A	N.D. B
1	H-4/BC	Unidentifiable	24.2	82.4	40.2	7.6	67.7	28	20.3	12.8	N/A	N/A	N/A	N/A
2	Unknown	Unidentifiable	18.9	59.2	32.5	10.5	59.2	none	none	none	none	none	none	none
3	C-14/17	Wyandotte	16.6	58.8	38.6	8.8	49.3	18.2	15.5	9.1	5.1	7.25	7.1	8.3
4	C-13/17	Wyandotte	23.2	63.9	45.3	8	51.3	24.65	19.25	13	8.4	8.15	N/A	9.6
5	M/9	Wyandotte	6	33.75	29.5	7.7	21.8	19.7	14.8	6.8	7.1	8	5.4	7.1
6	H-3/BC	Unidentifiable	28.4	73.35	42.3	10.1	59.6	28.6	20	13.8	6.6	6.9	9.3	9
7	M/3	Unidentifiable	20.8	66.8	39.5	9.1	52.5	20	6.8	13.2	8.5	10.8	8.15	8.2
8	M/SF	Unidentifiable	2.3	26.65	14.2	6.6	26.65	none	none	none	none	none	none	none
9	C-10/17	Wyandotte	17	62.8	36.7	8.5	50.7	25.1	16.2	11.1	5.2	5.3	8	N/A
10	H-2/BC	Wyandotte	17.3	60.3	32.5	10.3	48.3	20.4	15.6	11.6	10.6	5.5	N/A	N/A
11	C-11/17	Wyandotte	21.9	65.7	40.5	9.8	55.7	24.1	16.9	9.4	3.7	4.2	7.3	6.4
12	H-5/BC	Unidentifiable	21.7	65.7	36.4	8.5	53.3	22.6	18	11.3	N/A	6.2	N/A	N/A
13	Unknown	Wyandotte	16.3	55.7	37.9	8.7	44.2	22	17.4	10.01	N/A	5.7	7.9	7.2
14	H-6/BC	Glacial Unknown	27.4	81.9	39.5	10.7	67.7	25.5	19.6	13.5	8.1	8.9	8.1	7.5
15	C-8/17	Wyandotte	20.6	60.4	42.1	9.4	50.9	21.5	18.1	8.7	6.6	5.1	8.2	N/A
16	C-12/17	Wyandotte	21.4	68.3	39.6	9.3	58.8	26.15	17.7	9.8	7	3.3	8.2	9.3
17	Unknown	Burlington	31	93.7	48.15	9.1	76.5	25.5	14.4	17	9.7	9	3.8	4.2
18	H-1/BC	Wyandotte	22.1	65.6	41.5	9.2	52.7	26.45	21	13.1	4.35	6.4	5	7.8
19	M/SF	Deer Lick Creek	5.7	31	21.6	10.3	19.8	16.7	13.7	4.7	6.05	3.9	4.8	1.5
20	Unknown	Burlington	37.4	95.9	47.5	9.8	79.5	26.5	15.5	16.4	9.65	11.7	13.3	12.3
21	C-9/17	Wyandotte	19.9	66.4	40.9	8.5	54.4	26.3	17.5	12.2	6	5.7	8	8.9
22	Unknown	Bayport	15.8	59.6	30.5	9.7	47.4	20.1	16.25	12	6.9	5.5	5	5.7
23	M/3	Bayport	29.2	81.8	48.8	8.9	70.5	27.6	17.6	10.09	6.8	3.8	11.1	11.4
24	M/3	Bayport	29.7	79.4	47.9	9.7	69.4	23.6	17.6	10.04	6.9	6.3	10.3	9.7
25	M/3	Bayport	29.4	81	46.4	9.5	70.1	27.3	17.95	10.1	5.9	6.1	10.6	9.6
26	M/3	Bayport	26.5	78.8	41.5	10	67.1	28.1	18.1	11.4	6.5	5.8	8.8	10.1
27	M/3	Bayport	32.7	87.7	49.5	8.85	76.6	29.4	19.7	11.4	5.9	4.7	9	10.6
28	M/3	Bayport	28.5	79.3	46.56	10.2	69	26.3	17.9	10.04	5.6	4.5	9.5	9.1
29	J-1/6	Flint Ridge	25.9	82.1	40.1	8.5	69.6	23.5	19.1	11.8	5	5.9	4.8	7.5
30	M/SF	Local Glacial	30.5	106.5	29.8	9.4	106.5	none	none	none	none	none	none	none
31	D-1/BP	Wyandotte	9	66.8	31.9	6.5	56.2	16.9	11.9	3.1	5.5	5.9	7.8	7.4
32	J-2	Glacial Unknown	24.3	55.8	38.1	13.4	55.8	none	none	none	none	none	none	none

Appendix B. *Discrete Attributes for Projectile Points from Norton Mounds*

#	Blade Shape	Transverses section of Blade	Longitudinal section of Projectile	Symmetry of Blade	Chipping Pattern	Base Shapes	Juncture of Haft
1	Triangular	Biplano	Plano-Convex	Asymmetrical	Expanding Scars	Subconvex base	Lateral-lateral juncture
2	Triangular	Asymmetrically Biconvex	Plano-Convex	Asymmetrical	Expanding Scars	Subconvex base	Lateral-axial juncture
3	Triangular	Plano-Convex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
4	Triangular	Plano-Convex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
5	Triangular	Plano-Convex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Lateral-coincidental juncture
6	Triangular	Plano-Convex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
7	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Subconvex base	Lateral-base defining juncture
8	Excurvate	Biconvex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Lateral-axial juncture
9	Triangular	Plano-Convex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Lateral-coincidental juncture
10	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Lateral-base defining juncture
11	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
12	Triangular	Biconvex	Excurvate	Symmetrical	Expanding Scars	Subconvex base	Lateral-coincidental juncture
13	Triangular	Plano-Convex	Plano-Convex	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
14	Triangular	Plano-Convex	Asymmetrically Biconvex	Symmetrical	Conchoidal Scars	Subconvex base	Coincidental-basal juncture
15	Ovate	Biconvex	Excurvate	Symmetrical	Expanding Scars	Straight base	Coincidental-basal juncture
16	Triangular	Biplano	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
17	Triangular	Biplano	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
18	Ovate	Biconvex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
19	Ovate	Plano-Triangular	Ovate or Triangular	Asymmetrical	Conchoidal Scars	Convex base	Lateral-coincidental juncture
20	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Subconvex base	Lateral-base defining juncture
21	Ovate	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Subconvex base	Coincidental-basal juncture
22	Ovate	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Subconvex base	Lateral-coincidental juncture
23	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Coincidental-basal juncture
24	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Coincidental-basal juncture
25	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Coincidental-basal juncture
26	Triangular	Plano-Convex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Coincidental-basal juncture
27	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Coincidental-basal juncture
28	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Conchoidal Scars	Straight base	Coincidental-basal juncture
29	Triangular	Biconvex	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
30	Triangular	Biconvex	Excurvate	Asymmetrical	Expanding Scars	Convex base	Lateral-axial juncture
31	Triangular	Biplano	Ovate or Triangular	Symmetrical	Expanding Scars	Subconvex base	Coincidental-basal juncture
32	Excurvate	Biconvex	Biconvex	Asymmetrical	Expanding Scars	Convex base	Lateral-axial juncture

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An African Tree Produces White Flowers: The Disappearance of the Black Community in Buenos Aires, Argentina, 1850-1890



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ABSTRACT

*Walking down the streets of Argentina, one might suspect that there are no blacks among the city's inhabitants. Though a black community hardly exists in present-day Argentina, history tells another tale. Beginning in 1535 and continuing over the next four centuries slaves were brought to Buenos Aires. By the time of Argentina's independence in 1810 blacks accounted for a sizable minority of Buenos Aires' population and contributed their dance known as the *candombe*, religion, and literature to the country's vibrant culture. However, in the years 1850 through 1890, the black population declined dramatically and the black community all but disappeared. Wars and disease decimated the black population, while European immigration, Social Darwinism, and miscegenation led to the whitening of the black population such that the black community in Buenos Aires virtually disappeared.*

Walking down the streets of Buenos Aires today, one might assume that there are few, if any blacks among the city's 11 million inhabitants. If one sees a black person, they are simply regarded as Brazilian or another *extranjero*, or foreigner. Talking to the people on the streets confirms that blacks did exist in Buenos Aires, though they often claim that blacks never were of significant number. Yet this is a lie; there was a sizable and prominent black community that existed in Argentina, and in particular Buenos Aires. This brings to mind the question of what happened to the black population?

The disappearance of the black community in Argentina is a question that has intrigued many scholars. The first blacks arrived in Argentina as slaves from Africa in 1535 three years after the foundation of Buenos Aires. Initially, though few in number, the slave population increased over the next three centuries as a result of trafficking in human cargo. By the time slavery was abolished in 1853, a black community flourished in Argentina, contributing their dance known as the *candombe*, music, and literature to the country's vibrant culture. Following abolition, the black population continued to play an important role in Argentina's society, especially that of Buenos Aires. This paper will examine the disappearance of the black community in Argentina and, more specifically, in Buenos Aires. First, I will discuss the black community in Argentina in the years following the end of the slave trade in 1813. Next, I will assess the demographic consequences of war and disease, which killed many blacks, and miscegenation, which lightened the complexion of the black population. Finally, I will evaluate how racist attitudes associated with Social Darwinism during the 1880s continued to push for a whiter Argentina. By 1900, the general belief was that the black community had disappeared.



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The Black Community in Buenos Aires: 1800-1850

Census information compiled in the years 1778 through 1836 reveal that blacks accounted for a sizable minority of the city's population. Of the 24,363 individuals enumerated by the 1778 census, 7,235 or thirty-seven percent were blacks. However, the proportion they comprised of the city's population fluctuated over time. Although the number of blacks in the city had increased by 1827, the proportion of the city's population that was black had declined. Of the city's 42,540 inhabitants, 8,321, or twenty percent, were blacks. The city's black population continued to increase in number, as did the proportion it comprised of the overall population. According to the 1836 census, of the city's 63,035 inhabitants, 14,906, or twenty-six percent, were blacks. A black community in Buenos Aires clearly existed during the early years of the nineteenth century.¹

The censuses taken in the years 1810 and 1827 denote the classification of people. There were whites, indigenous peoples, *mestizos*, or a mixture of white and indigenous peoples, *pardos* or mulattos, *morenos* or blacks, and *desconocidos* or individuals who left the category of race blank, but denoted their legal status. By 1827 there were no blacks in this category.² The lack of blacks in the *desconocido* category may have been because blacks selected another category such as *pardo*, whose numbers increased from 1810 to 1827.

The 1810 census also lists the age distribution of the city's population. A

comparison of blacks and whites in the age range of 0-9 reveals that blacks and whites comprised a similar proportion of the population, fifteen and twenty percent, respectively. In the age range of 10-29 whites amounted to thirty-eight percent and blacks amounted to fifty-six percent of the total population. This difference can be attributed to the number of slaves and free blacks. A majority of the slave population was between the ages of 10-29, while thirty-eight percent of free blacks fell within this age range.³

A comparison of the proportion of women between the ages of 15-44 in the years 1810 and 1827 reveals that the proportion of black and white women of child bearing ages was similar at fifty-nine and fifty-three percent, respectively. However, despite these similarities there was a noticeable difference in the number of infants born to black and white women. According to the 1810 census, for every 1,000 women there were 400 infants born to whites and 256 infants born to blacks. By 1827, the difference was even more pronounced, with 366 infants born to whites and 183 born to blacks.⁴ Herein, lies one of the factors contributing to the disappearance of the black community in Buenos Aires—a high mortality rate.

Blacks' infants indeed suffered from a high infant mortality rate. In 1828 the mortality rate for white infants under the age of 1 for every 1,000 births by sex was 246 males and 251 females. In contrast, the mortality rate among black infants was 442 males and 376 females.⁵ Black males suffered from a disproportionately high infant

mortality rate than their female counterparts or the city's white population. The mortality rate within the black community can be explored further among the adult population of free blacks and slaves. Mortality rates were much higher for free blacks than they were for slaves. Free black males fifteen years or older had a mortality rate of thirty percent, while black male slaves had a mortality rate of twenty-four percent. In contrast, free black females had a mortality rate of twenty-one percent while black female slaves had a mortality rate of fourteen percent.

The difference in mortality rates within the black community itself may be attributed to living conditions. In general, diseases killed many in the black and white population. However, the conditions in which blacks lived oftentimes increased the likelihood of their dying from diseases such as cholera and salmonella.⁶ Yellow fever was especially rampant during the 1870s, killing many people that could not escape areas that were infected and the majority of its victims were blacks.⁷ Among the black population the standard of living was better as a slave than as a free person. Travelers accounts have suggested, "that many slaves continued voluntarily, not wishing in many cases to change their position or to leave their caring owners..."⁸ Apparently, this meant that the slaves knew that their chances of survival were greater if they remained in bondage than if they were freed.

Another factor that affected the reproductive capabilities of the black population was a sex ratio imbalance.

¹ Andrews, George Reid, *Los Afroargentinos de Buenos Aires*, (Buenos Aires: 1989), 81.

² *Ibid*, 83.

³ *Ibid*, 85.

⁴ Goldberg, Marta "La población negra y mulata de la ciudad de Buenos Aires 1810-1840," *Desarrollo Económico* 16 (april-june, 1976) cited in Andrews, 88.

⁵ Goldberg, Marta, "La población negra y mulata de la ciudad de Buenos Aires 1810-1840," *Desarrollo Económico* 16 (april-june 1976): 88.

⁶ *Ibid*, 89.

⁷ de Liboreiro, Cristina, *No Hay Negros Argentinos?*, (Buenos Aires, 1997), 8.

⁸ *Op Cit*.

According to the 1810 census, there were an unequal number of black women and men between the ages of 10-29. For every 100 females there were 107 males, whereas for every 100 white females there were 103 white males. By 1827 the sex ratio imbalance was even more pronounced, as the number of black males had dropped significantly to 69 for every 100 black females, yet the ratio of males to females among the white population remained high at 90 white males for every 100 white females.⁹

One reason for the decrease in the number of black males has to do with the wars of independence and fighting within the country. Afroargentinos actively participated in Argentina's wars for territorial expansion and suffered from high casualty rates. One of the worse losses suffered by the country during the war for independence occurred in 1815 at the battle of Sipe-Sipe, where 1,000 Afroargentinos were killed, captured, or wounded, while 20 Spaniards were killed and 300 were wounded.¹⁰ The black mortality rate may have been high compared to that of the whites because the army placed blacks in the front lines. Another example of the loss of life that occurred during the wars of independence were the military campaigns of General José San Martín. At least half of his army consisted of ex-slaves. When the army marched west to the Andes Mountains in Chile, and from there north to Peru and Ecuador in the hopes of liberating the countries from Spanish rule, only half of the 2,000 black soldiers in General San Martín's army made it to Chile.¹¹

As mentioned previously, there was an increase in Buenos Aires' black population during the 1830s as revealed by the 1827 and 1836 censuses.¹² The reasons for this increase can be found in the forced migration of *traídos*, or Africans, that were brought to Buenos Aires during the governorship of Juan Manuel Rosas to fight in the war against Brazil during the years 1831 to 1833. Many blacks also migrated from the interior of Argentina and Uruguay to Buenos Aires in hopes of finding jobs. One historian of the nineteenth century estimated that in 1840 somewhere between 12,000 and 15,000 Africans were brought to Buenos Aires. Though his estimates were twice the number that actually lived in the city, the population of blacks was considered to be more "Africanized."¹³ The migration of blacks from the interior also had an impact upon the composition of Buenos Aires' black population. The influx of immigrants from the interior of Argentina and Uruguay increased the number of foreign-born blacks. The 1827 census indicates that ten percent of blacks had been born in the interior of the country or in Uruguay.¹⁴ The increase of the black population during the 1830s could not be overlooked and was well documented in the censuses.

Nineteenth-century travelers' accounts suggest that the black population in Buenos Aires was greater than that reported by the 1810 and 1827 censuses. Alexander Gillespie, a British official captured during the English invasion of 1807, "estimated the population of Buenos Aires to be 41,000," and "one fifth of the population

was white and the rest of the population were different degrees of black."¹⁵ Another Englishman, Samuel Haigh, lived in Buenos Aires for 10 years during the 1820's and suggested "the city had about 100,000 citizens, pure whites in the city were few in number, the majority being of mixed white, native, and black, making it difficult to denote their origin."¹⁶ These examples raise doubts as to the overall accuracy of the 1810 and 1827 censuses.

We must also consider whether blacks may have been undercounted. Inaccuracies occur because not every person was counted. For example, the areas in which blacks lived, like the barrio Monserrat, were stereotypically described as "dark and dirty plagued with thieves, prostitutes, and evil people."¹⁷ Census takers may have avoided such areas and thus it may be impossible to obtain an accurate account of afroargentinos in certain parts of the city.

To say that a person was white did not always mean that they were of European origin. Racial passing was common. For example, a successful mulatto might after some time be able to pass from one racial classification to another and possibly be considered white. This may have been the case with the first president of Argentina, Bernardino Rivadiva (1780-1845) who was rumored to be black.¹⁸ His blackness would have made him unfit to be the country's leader. Thus, we see an example of the willingness to portray a white Argentina.

A new term of racial classification known as *trigueño*, meaning neither black nor white, came into use shortly

⁹ Andrews, 89.

¹⁰ Best, Felix, *Historia de las guerras argentinas*, 2 vols. (Buenos Aires, 1968) cited in Andrews, 139.

¹¹ Espejo, *El paso* pg. 400-1, 411. Álvarez Pereya, *Regimiento 8* pg 21, Tristany, Ramón. *Regimiento 8 de Infantería de Línea*, (Buenos Aires, 1897), 12-3, cited in Andrews, 141.

¹² Andrews, 90.

¹³ Op Cit.

¹⁴ Op Cit.

¹⁵ Gillespie, Alexander, *Buenos Aires y el interior*, (Buenos Aires, 1921), 65, cited in Andrews, 93.

¹⁶ Haigh, Samuel, *Bosquejos de Buenos Aires, Chile y Peru*, (Buenos Aires, 1920), 26, cited in Andrews, 93.

¹⁷ Romay, Francisco L, *El Barrio de Monserrat*, (Buenos Aires, 1971), 61-3, cited in Andrews, 95.

¹⁸ Andrews, 97.

after Argentina's declaration of independence in 1810. The term literally meant wheat-colored, from the Spanish word *trigo* for wheat. It was used to identify light-skinned blacks and dark-skinned whites. In doing so, it helped to categorize social mobility. Light-skinned blacks had a better chance of being accepted into the white middle class than their dark-skinned counterparts. However, the dark-skinned whites' chances of social mobility would be minimal compared to their white middle class counterparts. According to one historian, "*trigueño* was applied to whites that had black or chestnut colored hair, bronze or chestnut colored skin, or those physically resembling blacks. It was also used as a substitute for the word *Negro* for blacks in high respectable positions."¹⁹ The term *trigueño* was also typically applied to Sicilian immigrants, though it was not a term that they voluntarily accepted, as was the case with the black population.²⁰ The term *trigueño* helped to identify those individuals that were hard to racially categorize, taking into account their social mobility.

Afroargentinos used the term *trigueño* in order to leave behind or reject their African ancestry. Those individuals that occupied high positions in society aspired to be known as *trigueños* in order to be respected by their white counterparts. An example is Estanislao Maldones, a black colonel who served under Rosas; after fourteen years of military service he was considered a *trigueño*, as well as his son.²¹ Racial passing often required several generations, for example captain Federico Maurino was identified as a *pardo* when he was born in 1828, the

eldest son of Feliciano Maurino, a *pardo*. Yet when Federico's son, also named Federico, entered the army in 1882 he was noted to be a *trigueño*.²² It was possible for a black person to whiten their complexion within two generations.

Authorities would also have wanted to promote the existence of a whiter Argentina. For example, one historian affirmed that few blacks lived in the parishes of Monserrat, Concepcion, La Piedad and Balvanera, while in the parish of San Telmo "the black population constituted a minority."²³ However, a closer look at the 1836 census reveals that blacks constituted twenty percent of San Telmo's population, a larger proportion than in Balvanera and approximately equal to that of La Piedad. A whiter Argentina was not only desired, but actively promoted.

As the frequency of miscegenation increased, it also became harder to determine who was black. A new category of blacks came into existence known as "white blacks," designating black people that had more white than black in their blood. Thus, a "white slave" was not uncommon in Argentina. Newspaper articles from the nineteenth century referred to some *mulattos* as "*mulatto whites*." One anecdote even referred to the "white mulatto as being a rare beauty."²⁴ This remark provides us with an idea of society's notion of beauty in that "what's white is right."

The 1810 and 1827 censuses clearly established the existence of a black population. Other sources such as travelers' accounts of visitors to Buenos Aires confirm its presence. However, the implementation of a new racial

classification category hints at what would happen to the black population in the upcoming years 1850-1900.

The Disappearance of the Black Community

The twenty-two years of Juan Manuel Rosas' governorship of Buenos Aires (1830-1852) can best be described as years of turmoil and chaos. At the time there were two main political parties, the Federalists who believed governmental power should be shared between the interior and the capital, and the Unitarians who believed power should remain in the capital. Rosas was considered to be a Federalist. The Unitarians, based in Buenos Aires, believed Rosas and the other Federalists hindered the country's development because of their barbaric ways and lack of education. Their attitudes toward the city's black population differed. Rosas looked to the black community for political support when needed, while the Unitarians believed the only way for Argentina to develop into a modern country would mean the elimination of all people that were not white.

Rosas used the bodies of blacks like tools to achieve success. Whether it was as fighting machines, or through the ballot box, Rosas could persuade blacks to side with him by giving blacks just enough rights to retain their loyalty and not side with the Unitarians. For example, in 1836 he abolished the law that demanded the automatic requirement of free black men fifteen years and older to serve in the army. On occasion he also made donations to African mutual aid societies. Additionally, in 1839 he abolished the slave trade once and for all, after having

¹⁹ Padilla, Elena, *Up from Puerto Rico*, 73-4 and 75, (New York, 1958), cited in Andrews, 99.

²⁰ Op Cit.

²¹ Andrews, 101.

²² Op Cit.

²³ Sanguinetti, Manuel Juan, *San Telmo: Su pasado histórico*, (Buenos Aires, 1965), 116 and 317, cited in Andrews, 127.

²⁴ Beck-Bernard, *Cinco años en la Confederación Argentina, 1857-1862*, (Buenos Aires, 1935) 180-1, cited in Andrews, 102.

reinstated it in 1831 during the war against Brazil. Finally, Rosas repealed the laws that prohibited the nations of *candombe* from meeting and in 1838 invited them to dance and celebrate Independence Day, which infuriated the Unitarians and helped them to unite against Rosas.²⁵ Although Rosas was considered to be sympathetic to the plight of blacks, his main interest was to stay in power, as demonstrated by his confiscation of the central seat of the Nation of Cambuda in 1838, and using its monies to pay off Buenos Aires' debts. Again, this reveals how blacks were at the mercy of Rosas.

Following Rosas' fall from power in 1853, the Unitarians took control of the government, and looked to transform Argentina. This group of politicians and intellectuals, known as the generation of 1880, looked to the countries of France, England, and the United States as models for Argentina's development. In order to be a modern country, they argued that Argentina must disregard the barbaric and old ways of the Federalists and eliminate the non-white elements of its population.

Among the intellectuals of the generation 1880, three stand out for their opinions about the black population. All three adhered to the teachings of Social Darwinism; thus, they argued that a whiter Argentina would be the best way to achieve a more civilized country. Domingo F. Sarmiento, who wrote *Civilización y barbarie: la vida de Juan Facundo Quiroga* in 1845, retells the life of Juan Facundo Quiroga, a general during the years of Argentina's expansion. Sarmiento criticized Rosas government as barbaric. According to Sarmiento, one potential solution to this

"problem," was to encourage European immigration to whiten the population. He did not believe in the mixing of whites and blacks. Instead he looked to the United States as a role model, and strongly supported the idea of "segregating the Native Americans, and marginalizing the blacks, and prohibiting the two groups from participating genetically, socially, and politically..."²⁶ In doing so, white men would be able to retain political and social power. Juan Bautista Alberdi, who wrote *Bases y puntos de partida para la organización de la Republica Argentina* in 1852, described how to form a more perfect nation. Alberdi looked to England and believed "the civilized action of Europe was in South America and Argentines were Europeans born in South America and called Americans. Their heads, blood, and color, were from outside the country."²⁷ Unlike Sarmiento, Alberdi believed that racial mixing was important because the genes of whites would dominate and were superior to the inferior genes of non-whites, which would help to breed out the "bad" genes. José Ingenieros, who wrote both *Sociología Argentina* in 1913 and *La Locura en la Argentina* in 1937, was a strong believer in Social Darwinism and was more extreme in his views than either Alberdi or Sarmiento. He believed that the fight for the second independence of Argentina, freeing the mind of the old ways, would be one of race before class, and institutional formation.²⁸ Like Sarmiento, he believed that blacks and whites could not mix and that the two should develop separately.

By the end of the nineteenth century the dreams of Sarmiento, Alberdi, and

Ingenieros had been achieved. Between the years 1880 and 1900 almost a million European immigrants arrived in Argentina. By 1900, the country's dependence on blacks for its labor force, army, and voting ballots had been replaced by European immigrants.²⁹ Blacks were left to compete with newly arrived immigrants for jobs they had previously held. Jobs such as washing clothes, *callejeras*, or street vendors, and domestic service were taken away from blacks. Immigrants went so far as to replace blacks in the army. For example, the 8th Infantry Battalion made up of blacks during the 1820s was later disbanded. In 1871, it was reconstituted and renamed the Italian Legion. As tools of war, immigrants had replaced blacks. Competition between blacks and immigrants also occurred for living space. As the black population declined, immigrants displaced them, prompting many of the remaining blacks to move outside the city into suburbs such as Flores.³⁰

However, some blacks opted for assimilation into white Argentina. Despite animosity and conflict between blacks and European immigrants, marriages between black women and white men were common. A sex-ratio imbalance among the black population forced black females who wished to marry to seek out husbands among white male immigrants. This prompts one to ask why would white men choose to marry black women? One reason was the lack of white women. The majority of immigrants that came to Argentina were men. In most cases they were not looking to settle permanently, but to work and return home with the money they had saved. However, as

²⁵ Ibid, 118.

²⁶ Sarmiento, Domingo F., *Conflictos y armonías de las razas en América* 2 vols, (Buenos Aires, 1953), cited in Andrews, 123.

²⁷ Alberdi, Juan Bautista, *Bases y puntos de partida para la organización de la Republica Argentina*, (Buenos Aires, 1952), 38, cited in Andrews, 123-4.

²⁸ Ibid, 124.

²⁹ Ibid, 211.

³⁰ Ibid, 217.

more male immigrants came and settled in Buenos Aires, it became harder for them to marry a white woman. Consequently, many immigrants married black women. Although the magazine *Caras y Caretas* once stated that it bothered a black family to see their children marry a white person, there was never an indication of blacks having a problem with the intermarriage of blacks and whites.³¹ This indicates that avenues for social advancement could be pursued through intermarriage, and having children of a lighter complexion.

The black community also had internal problems, which prevented it from coming together. Oftentimes, those were attributed to “the tendency to waste time, spending money and energy on entertainment, a common dislike between blacks and whites, unequal educational opportunities and class issues within the black community.”³² In 1858, the black press in Buenos Aires wrote against the tendency of the black community to spend money and energy on diversions and instead concentrate on constructive projects such as education or the mutual aid societies.³³ Classism also hindered the efforts of the black community and was well pronounced within the black press. For example, *La Broma* represented the views of the upper class, while *La Juventud* those of the lower class. Classism also destroyed any efforts to create a united community and pitted the classes against each other, creating separate social clubs such as *La Esperanza Argentina*, which was financed by prominent black families. The working class black, however, could not afford the annual membership dues.

Later they responded to their exclusion with the formation of a social club known as *Los Hijos del Orden*.³⁴

One thing upper and lower class blacks did agree on was assimilation into the white society. They were in favor of adopting white, middle-class culture. In doing so, they rejected their African heritage. The African mutual aid societies disappeared during the decades of 1860 and 1870, when young Afroargentinos refused to join and support them. The black community also abandoned the *candombe* in favor of imported dances such as the chotises and mazurka from Europe. *La Broma* newspaper reported that upper-middle-class blacks looked to limit many cultural activities of the black community considering them a detriment to their advancement. The black bourgeois class looked to escape the stigma of their African past and sought to be accepted as equals by the white middle class. This concept would have been impossible before the year 1850, without the economic expansion, the growth of a middle class, and a white society that seemed to like the idea of blacks being equal to them.³⁵

An African Tree Produces White Flowers

Factors such as the end of the slave trade in 1813, the demographic consequences of wars, disease, and miscegenation, as well as Social Darwinist attitudes, all contributed to the disappearance of the black community in Buenos Aires. While disease killed many blacks, the wars fought for independence, produced disproportionately high casualties

among black men contributing to a sex-ratio imbalance among the black population. This coincided with an increase in immigration by white Europeans, which Social Darwinists, actively promoted to whiten Argentina. With the arrival of so many white male immigrants, they often sought out black females as spouses. Any children they had would help lighten the complexion of the city's population.

By the end of the nineteenth century many people believed that the black population had “disappeared.” But in reality, the black population had only become lighter. Published in the black newspaper, *Cara y Caretas*, author Juan Jose Soiza Reilly exclaimed, “the African tree is producing white flowers.”³⁶ The black community was slowly fading in such a way that the children of blacks appeared to be white. It also suggests the answer to the mystery of what happened to the black population in Buenos Aires and Argentina; they were slowly assimilated into the white community.

³¹ Soiza Reilly, Juan José, “*Gente de color*,” *Caras y Caretas*, November 25, 1905, cited in Andrews, 220.

³² *Ibid*, 221.

³³ “*El lujo es incompetente y ruinoso a la clase de color*,” *El Proletario* May 9, 1858, pg. 1, cited in Andrews, 221.

³⁴ *Ibid*, 224 and 226.

³⁵ *Ibid*, 226.

³⁶ Sozia Reilly, Juan José, “*Gente de color*” *Caras y Caretas*, November 25, 1905, pg. 2.

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Impact of Phonological Working Memory on English as a Second Language Students' Vocabulary Learning



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ABSTRACT

Phonological Working Memory (Baddeley, 1990) involves a mental processing space thought to be conducive to learning new vocabulary. Previous studies have shown that phonological working memory makes an important contribution to vocabulary learning, both in young monolingual children and in older children at initial stages of learning English as a Foreign Language (EFL). Recently, Pearson (2000) investigated phonological working memory, using a nonword repetition task incorporating English phonotactic patterns, in young preschool children learning English as a Second Language (ESL). Further analyses of these data will be presented, using a less-biased nonword repetition task incorporating a more basic CVCV pattern.

Introduction

The theory of Phonological Working Memory was originally proposed by Baddeley (1986) and has since been explored with English monolingual children, second language learners, and language disordered children. Phonological Working Memory is a mental processing space that is thought to be conducive to remembering a novel series of sounds. For example, the word "mat" contains three speech sounds, also called phonemes: /m/, /æ/, and /t/. A phonological loop, which involves phonological working memory and repetition, is thought to be activated in order to rehearse words repeatedly until they are stored in long-term memory. Words shorter than "mat" require less phonological working memory, whereas longer words require more.

Review of Literature

Several lines of research have evolved from this theory. Many studies have been done involving English-speaking monolingual children. In their 1989 longitudinal study, Gathercole and Baddeley presented pseudo-words (pretend words) that conform to the dominant prosodic constraints of English to four-year-old monolingual English-speaking children who had been attending school for one month. They used the ability to immediately repeat these pseudo-words as a measurement of the child's level of phonological working memory. Examining the correlation between the children's pseudo-word repetition skills and their vocabulary at the time of initial examination, as well as one year later, Gathercole and Baddeley found that pseudo-word repetition performance at age four was a good indicator of vocabulary performance at both age four and age five, demonstrating that phonological working memory is an important component in the vocabulary learning process of monolingual



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children. Various other studies (Adams & Gathercole, 1995, 1996; Gathercole & Baddeley, 1990) have also demonstrated that phonological working memory is an important component of learning new vocabulary in very young children and language delayed children. Children with higher levels of phonological working memory have been shown to have a larger vocabulary than their counterparts with lower levels of phonological working memory, as measured by pseudo-word repetition tasks.

Pseudo-word repetition, however, may not always be a good indicator of vocabulary learning potential. Gathercole, Willis, Emslie and Baddeley (1992) found that up to age five, phonological memory is an important component of vocabulary learning in monolingual children; however, after age five, it gradually becomes less important. By age eight, it appears as though prior vocabulary knowledge already stored in long-term memory plays a much more important role in new vocabulary learning than phonological working memory.

This knowledge concerning the impact of phonological working memory on vocabulary learning is being explored for use as a possible non-biased, differential, diagnostic measure for use with children who may be language disordered. Gathercole and Baddeley (1990) found that language-disordered children have a deficit of phonological memory skills. Montgomery supported these findings in his 1995 study. Tests of phonological working memory take only a few minutes to administer and thus could be an efficient and cost-effective diagnostic tool for predicting future language-learning problems. By recognizing possible problems early, children would be able to receive important language services sooner. In order to afford similar benefits to second language learners,

though, further research is necessary to determine if a deficit of phonological working memory in an English as a Second Language (ESL) student is as reliable an indicator of a language disorder in the ESL student as it appears to be in the monolingual student.

Though previous work has indicated that phonological working memory decreases in importance by age eight in monolingual language learners, this also has not been demonstrated in second language learning situations. Two studies have addressed the role of phonological working memory in middle school aged students learning a second language. Service (1992) examined nine and 10-year-old English as a Foreign Language (EFL) Finnish students, comparing their verbal repetition skills at the beginning of a school year with their academic progress in English classes over the following three years. Finding a strong correlation between the two, she concluded that phonological working memory played a significant role in learning the vocabulary of a foreign language. Her conclusions were supported in a study by Cheung (1996) concerning the impact of phonological working memory on vocabulary learning in Hong Kong EFL 12-year-old students. Cheung measured the students' phonological working memory through a pseudo-word repetition task and then determined how long it took the students to learn three novel English words. He found that pseudo-word repetition was a good predictor of the rate at which students would learn new English vocabulary; however, this relationship existed only with students at lower English proficiency levels. Students at higher English proficiency levels did not appear to be as dependent on phonological working memory, relying more on long-term English vocabulary knowledge. Cheung's study supports the importance of phonological working memory as an important factor

in new vocabulary learning, regardless of age, or whether it was their native language (L1) or second language (L2). Both Service's and Cheung's studies support previous findings involving monolingual English-speaking children.

The importance of phonological working memory in the vocabulary learning of English as a Second Language (ESL) students, however, is still uncertain. The children in Service's (1992) and Cheung's (1996) studies were EFL students. EFL students learn English as an academic subject in their own country, whereas ESL students learn English in a country where English is the primary language of communication. Different variables exist between the two groups. It is quite possible that a combination of varying sociocultural factors could affect the significance of phonological working memory in ESL students, factors that are not present in the learning environment of monolingual and EFL learners. Given the different circumstances in which ESL students learn English, it cannot simply be assumed that they learn in the same manner as young monolingual children or as EFL students. For example, the first language of ESL students may be suffering from attrition, which in turn may impact English language learning experiences (Kayser, 1995).

In order to address such issues, Pearson (2000) studied a group of ESL children. Twenty-three pre-school and kindergarten-aged ESL children were screened for hearing acuity and non-verbal intelligence. All were within normal limits. The students' phonological working memory skills were assessed using a modified version of The Children's Test of Nonword Repetition (Gathercole, Willis, Baddeley, & Emslie, 1994). As a measure of their phonological working memory, this test uses words based on typical English phonotactic patterns and prosodic cues. This measure was then compared with

the children's ability to learn new English words in two naturalistic play sessions and then to recall those words both immediately after each session and 24-48 hours later. She found that children's results on a pseudo-word repetition task were significantly correlated to the children's ability to immediately comprehend new words, but not significantly correlated to their ability to comprehend those same new words 24 to 48 hours following the new words' initial introduction.

Further research, however, needs to be done before definitive conclusions can be drawn regarding this population of children. The pseudo-word repetition task used by Pearson (2000) contained words that were based on English phonotactic patterns, which may be biased for or against certain first language backgrounds, a concern since the children in her study had various first languages. A test not based on English phonotactic patterns, using pseudo-words constructed from a more basic consonant-vowel-consonant-vowel (CVCV) syllable structure, might be more appropriate for such a population. Therefore, this study seeks to reanalyze Pearson's work by using a modified version of a different pseudo-word repetition task used by Dollaghan, Biber, and Campbell (1993).

Method

A reanalysis of data from Pearson (2000), using a different pseudo-word repetition task conducted at the same time as her study, was done in order to determine the impact of a different measure of phonological working memory on vocabulary learning in ESL students. The different test used, that of Dollaghan, Biber, and Campbell (1993), is made up of nonsense words with a more basic CVCV syllable structure.

Twenty-three ESL children, aged 3;1 – 6;6 were individually assessed for nonverbal IQ, hearing ability, and

English language ability (see Appendix). All were sequential language learners. First languages included Korean, Slovak, Japanese, Uzbek, Farsi, Finnish, Chinese, and Arabic. The children were screened for nonverbal IQ using the matrices subtest of the Kaufman Brief Intelligence Test (Kaufman & Kaufman, 1990) and all fell within +/- one standard deviation of the norm, ensuring that no intelligence deficiencies or excesses would bias the data. Hearing acuity was also tested and all were found to be within normal limits (defined as being able to hear all test frequencies, 500-6000 Hz, at 25dB, a level set due to ambient noise in the testing environment), indicating that no hearing deficiencies existed within the population. The Goldman-Fristoe Test of Articulation (Goldman & Fristoe, 1969) was used to document systematic misarticulations due to the young age of the children and their developing phonological systems. Additionally, each child was assessed for English language proficiency using a modified version of the Preschool Language Assessment Scales (Duncan & DeVila, 1986).

Two naturalistic play sessions were conducted where the children were exposed to six new unknown English words (each containing two syllables and five phonemes, with stress on the first syllable) at each session, for a total of 12 words. During each learning play session, each target word was incorporated into the play by the researcher 10 times. The children were then tested for both comprehension and production of the new words, using "pointing" games, immediately after the play sessions, as well as 24-48 hours later. (Data for comprehension only is used in this reanalysis.) The data were examined using bivariate correlations to determine if a relationship existed between phonological working memory, as measured by the pseudo-word repetition task with a more basic CVCV

pattern, and the ability to learn new English words. Multiple regressions were also run in order to determine contributions of other possible factors, such as, age, non-verbal IQ, and prior English language skills.

Results

Bivariate correlations were run with no significant correlations found to exist between the CVCV pseudo-word repetition task and the children's ability to comprehend new English words, immediately after play sessions or 24-48 hours later. However, a significant correlation did exist at the .01 alpha level between the children's English language proficiency, as measured by a modified version of the PreLAS, and the children's ability to comprehend new words both immediately following play sessions ($r = .652$ at the .01 alpha level), as well as 24-48 hours later ($r = .418$ at the .05 alpha level). Additionally, a significant correlation ($r = .561$ at the .05 level) existed between the children's ability to recall new words immediately and the children's ability to recall the new words 24-48 hours later. (See Table 1.)

Multiple regressions were also run in order to further explore the results of the data. The following dependent variables were used: age, non-verbal IQ, PreLAS score, and the score on the nonword repetition test (NRT). The results of the multiple regressions demonstrate nonsignificance at the .05 level for both immediate comprehension (see Table 2) and also recall comprehension 24-48 hours later (see Table 3).

Discussion

The results of this study support the findings of Gathercole, Willis, Emslie, & Baddeley (1992) and Cheung (1996) concerning the decline of dependence on phonological working memory as language proficiency increases, as well as the findings of Pearson (2000) concerning the nonsignificance of

phonological working memory in ESL students, even at very young ages. First, the significant correlation between previous English proficiency, as measured by the PreLAS, and learning ability, as measured by children's ability to comprehend new words, both immediately following learning play sessions and also 24-48 hours later, supports the findings of Gathercole et al. (1992) that increased language proficiency results in decreased dependence on phonological working memory. Additionally, the data supports Cheung's (1996) conclusions that, in higher proficiency students, second language vocabulary learning, like first language vocabulary learning, is more dependent on long-term vocabulary knowledge than on phonological working memory. Also, the lack of significant correlations between performance on the less-biased CVCV pseudo-word test and children's performance in learning new words, supports Pearson's (2000) findings that phonological working memory may not play as significant a role in young monolingual children or EFL learners and thus may not be appropriate as a differential diagnostic measure in ESL populations.

This study was different from previous studies in several important ways. Although its results support those of Pearson (2000), it is distinct from that study because of its use of a more universal CVCV nonword repetition test that would be less biased towards particular first language students. Additionally, this study was different from much of Gathercole and Baddeley's work, which involved monolingual English-speaking preschoolers, as this study worked with second language children. Cheung (1996) and Service (1992) also both worked with second language learners, but their learners were older preteens in an EFL learning situation, whereas the participants of this study were ESL learners.

The results of this psycholinguistic approach do not supply reasons for individual variation in learning with this group of children; thus, it may be productive to consider several possible sociolinguistic explanations for the apparent lack of dependence on phonological working memory in these ESL students. There are numerous sociopolitical factors that may affect ESL students that would not affect monolingual English and EFL learners. These children, because of their native language and native culture, are oftentimes part of a minority group that may be looked down upon from the majority; they may suffer from varying degrees of discrimination and be unable to receive the same benefits afforded to non-ESL children. Even in cases where discrimination does not exist and where ESL students have equal access to education and other benefits, they still may be frustrated with adapting to a culture that is alien to them; those customs and cultural nuances that may seem perfectly natural to a member of the majority culture can be frightening and intimidating to an ESL student from another cultural background.

Additionally, because many ESL children are living in an environment in which their native language may rarely be spoken, their first language may suffer from attrition (Kayser, 1995). The students' first language(s), also, may impact their English language learning abilities. A child's knowledge of another language could cause transfer errors, mistakes in the second language because of assumptions that the two languages share common features, when, in fact, they might not. These variations could affect the English language learning progress in ESL students, a circumstance that would not play a role in the experience of monolingual or EFL children.

It is also important to consider that preschool learners lack the literacy skills

of preteen students. They have not yet been influenced by the concept of words being made up of different sounds. There is also great variation in the cognitive development of a three-year-old compared with a preteen, as well. A preschooler does not have the same mental capacities that the older students of Cheung's (1996) and Service's (1992) studies would have had. Preschoolers also do not have the metalinguistic development of an older preteen student. They are not capable of grasping the abstract concepts of conscious thought about words being made up of different sounds.

All of these are factors that may influence a child's English language learning, factors that do not contribute to the same degree to the experience of a monolingual or EFL learner. While phonological working memory may play a part when exploring the learning experiences of ESL children, it may be a much smaller part than with other populations of children, regardless of the type of nonword repetition task used, because of the factors enumerated above. Therefore, it may be a less significant factor in English language learning than it is in monolingual and EFL children.

Table 1. Correlations of Variables Impacting Comprehension of New Vocabulary Learning

	1	2	3	4	5
1 Non-Verbal IQ	-				
2 PreLAS	.206	-			
3 NRT Score	-.001	-.100	-		
4 Imm. Comp.	.235	.652**	.015	-	
5 Comp. 24-48 hrs. later	.059	.418*	.094	.561**	-

* Correlation significant at 0.05 level (2-tailed).

** Correlation significant at 0.01 level (2-tailed).

Table 2. Multiple Regression Involving Immediate Comprehension and Age, Non-Verbal IQ, PreLAS Modified Raw Score, and Nonword Repetition

ANOVA							
Model		Sum of Squares	df	MeanSquare	F	Sig.	
1	Regression	63.797	4	15.949	3.896	.019	
	Residual	73.681	18	4.093			
	Total	137.478	22				
a Predictors: (Constant), NRT Score, Non-Verbal IQ, Age in Months, PreLAS Raw 2							
b Dependent Variable: IC							
Coefficients							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
1	(Constant)	-4.046	Std. Error	Beta			
	Age	4.019E-02	4.905	.184	-.825	.397	.420
	Non-Verbal IQ	2.752E-02	.046	.115	.650	.524	
	PreLas Modified Raw Score	.116	.046	.536	2.511	.022	
	NRT Score	2.714E-02	.140	.035	.194	.848	
a Dependent Variable: Immediate Comprehension							

Appendix

Descriptive Information of Children				
Native Language	Gender	Age*	Non-Verbal IQ	PreLAS Modified Score
Korean	F	45	99	52
Slovak	F	48	114	50
Japanese	M	42	95	29.5
Uzbek	F	37	95	38
Farsi	F	61	99	54
Korean	M	59	112	35.5
Russian	F	78	95	38
Korean	F	70	104	66.5
Korean	M	70	88	48
Russian	M	75	97	61.5
Korean	F	75	100	66.5
Uzbek/Russ	F	68	97	36
Russian	F	68	100	59.5
Finnish	F	54	101	45.5
Chinese	F	55	105	38
Arabic	M	47	99	41
Icelandic	F	68	106	70
Arabic	M	67	100	60.5
Korean	F	64	116	44.5
Japanese	M	72	96	53.5
Korean	M	68	128	64
Korean	M	65	128	54
Korean	M	65	116	47

* age is given in months

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A Comparative Analysis of Wood Residues on Experimental Stone Tools and Early Stone Age Artifacts: A Koobi Fora Case Study



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ABSTRACT

There have been recently reported plant residues on stone tools from the Okote Member, Koobi Fora, Kenya. No comparative microscopy, however, was available for more specific identification of the residues. Experimental research, using replica basalt tools, was conducted on six different trees native to the Koobi Fora region. Wood anatomy observed through reflected light microscopy (100-500x) of the experimental tools was compared to residues on the archaeological materials. Similar anatomical structures and patterning of residues were visible in both samples. This further supports recent evidence of woodworking by early hominids approximately 1.5 million years ago.

Introduction

Koobi Fora is a region in Kenya, east of Lake Turkana and is an area rich in Plio-Pleistocene deposits with hominids and stone tools. Many early hominids have been found in Koobi Fora and it is an important locality for understanding the evolution of our ancestors. The archaeological sites in the region date back as far as 2.5 million years ago (mya). This study focuses on sites dating to approximately 1.5 mya, a number of which were recently excavated by Hardy and Rogers (2001).

Because the only artifacts that survive at 1.5 mya are stone tools and modified animal bones, it is important to understand stone tool function. Stone tools from 1.5 mya have been analyzed for residue, but no specific identification of the residues found has been completed. Therefore, an experimental program, replicating stone tools and using them on wood was performed. This way, specific identification of the residues and past function of the artifacts from 1.5 mya could be accomplished through comparative analysis.

Background – ESA Stone Tool Function

The earliest known wood artifacts are from 400,000 years ago. These are wooden spears from the Lower Paleolithic site of Schöningen in Germany (Thieme 1997). The spears are not evidence of the first woodworking technology, rather they are the oldest preservation of wood that we have. With microscopic analysis of tool function, the dating for the presence of a woodworking technology can be pushed back even farther.

There have been few studies of stone tool function from the Early Stone Age. Of these few, most have analyzed only flint or chert tools. ninety-five percent of tools from Koobi Fora are made from basalt, a volcanic lava. Keeley and Toth



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(1981) analyzed flint and chert artifacts at 1.5 mya. Also, they analyzed microwear polishes, which involves the removal of any plant residue that might be present on the tool. Using an incident-light microscope at magnifications of 50-400x, they found evidence of polishes that they feel coincide with the processing of meat, soft plants, and wood (Keeley & Toth 1981:465).

Sahnouni and de Heinzelin (1998) also analyzed microwear patterns of Early Stone Age artifacts found in Ain Hanech in Algeria. Through light microscopy on an Olympus BHM at 100-500x, they found evidence on flint tools of meat processing (Sahnouni & de Heinzelin 1998:1097).

Another analyses of artifacts from around 1.5 mya, also shows evidence of woodworking. Dominguez-Rodrigo *et al.*, used SEM and light microscopy for analysis of phytoliths, which are silica bodies in plant cells that are possibly diagnostic to species, on Acheulian handaxes from Peninj in Tanzania to provide evidence of what they were used for. They found evidence of grasses and most importantly, Leguminosae (*Acacia*) or Salvadoraceae (*Salvadora persica*). Analysis of the paleosols around the artifacts show that the phytoliths found on the tools are unlikely to be from contamination (Dominguez-Rodrigo *et al.* 2001:295).

Hardy and Garufi (1998) show the importance that residue analysis has in identifying the use of stone tools. Because plants very rarely survive macroscopically, residue on tools is often the only evidence that survives. The experiments conducted show that wood residue can be analyzed to show the patterning of different use-actions, and can be identified to class and maybe even species level (Hardy & Garufi 1998:182).

Background – Paleoenvironment

Through paleoenvironment reconstruction conducted by Jeanne Sept (1986, 1994), economically viable plants at 1.5 mya were identified. Many sites in the Okote member at Koobi Fora are located in proximal floodplains along river channels. One of these sites, Fxj 50, was analyzed for pollen and was found to have been a dry, open woodland, which have *Acacia* and *Commiphora* trees as a common characteristic. Also, the pollen showed that *Acalypha*, *Ficus*, and *Ziziphus* trees were also present. This site was then compared to the modern day channel landscapes of the Voi River in southern Kenya and Il Sej Naibor in northern Kenya, east of Lake Turkana. This comparison shows that the environment now and 1.5 mya are broadly similar and the plants are the same now and then (Sept 1986).

Methods

Experiments in woodworking, with replicated stone tools, were conducted for comparison with archaeological material. Six trees, *Commiphora* sp., *Salvadora persica*, two *Acacias* sp., *Boscia coriacea*, and *Delonix elia*, were chosen for the experiment since they had been identified as possible plants present at 1.5 mya in this region. Out of these six trees, five have known significance to the Dassanetch living in the area. The Dassanetch are a semi-nomadic, agro-pastoralist group that came from Sudan and Ethiopia to the north. They rely on cattle, sheep, and goats, although there is a smaller community within the Dassanetch that rely solely on fish. This group is considered poor by other Dassanetch because they have few, if any, livestock. The Dassanetch uses for the trees were gathered through unstructured interviews with two Dassanetch who were familiar with plants and one interpreter. The Dassanetch names and uses for the trees used in the experiment are in Table 1.

For the experiments, local basalt was collected and fashioned into stone tools, similar to those found at 1.5 mya. Then the trees listed above were identified and branches were collected from them. All of the wood collected for the experiment was fresh when used. To work the branches, three different use-actions were executed: whittling, cutting/sawing,

Table 1. Dassanetch names and uses for the trees used in experiment.

Local Name	Scientific Name	Local Uses
Lyathe	<i>Commiphora</i> sp.	Children eat the fruit in times of drought and the tree is used as toothbrushes and for building boumas
Nyiethe	<i>Salvadora persica</i>	The fruits are eaten raw, used to make fruit juice, and feed to goats. Also, it is used for toothbrushes.
Kerech	<i>Acacia</i> sp.	The thorns are used for needles and the trunk is used to make sitting stools, water troughs, and cups to milk animals. To fashion the cups, they scrape out the inside with stones.
Sech	<i>Acacia</i> sp.	The fruits are used to feed goats and baby sheep, goats also eat the leaves in times of drought. Also, it is used to dye skirts red
Zoorich	<i>Boscia coriacea</i>	The fruits are eaten and it is used to build houses.

and incising. Whittling consists of scraping the stone tool lengthwise along a branch to remove layers of tissue. Cutting/sawing consists of cutting into the branch crosswise. Incising consists of cutting into the branch lengthwise. Each use-action was performed for 2, 5, and 10 minutes for a total sample of 54 tools. These samples were exported back to the United States for analysis.

For the purpose of this paper, just the 10-minute duration of each use-action was examined. The wood residues on the tools were analyzed using reflected light microscopy on an Olympus BX-30, at both 100 and 500x. Diagnostic wood anatomy was identified for each use-action (Hoadley 1990). The experimental results were compared to archaeological materials excavated by Hardy and Rogers in 2000 at Okote member sites, FxJj 18IHS, FxJj 18 GU, FxJj 50, FwJj 1, FxJj 73, FxJj 17A, and FxJj 17B, at Koobi Fora (Hardy & Rogers 2001). The archaeological materials were examined using the same methods as above.

Results

Use-actions

Each use-action cuts through the wood at a different plane that can be identified and used to predict which use-action was performed.

Cutting/sawing The only plane cut with a (cutting/sawing) motion is cross-sectional. However, the edge of a stone tool is not uniform and often undulates at a microscopic level. Therefore, radial sections are sometimes torn loose and adhere to the tool. Striations are parallel to the working edge.

Incising Incising cuts primarily along a radial plane. Striations are parallel to the working edge.

Whittling At the beginning of cutting the fragments produced are tangential. As more wood is

removed, radial and even cross-sectional planes may appear. Striations are perpendicular to the working edge. [Hardy & Garufi 1998:180]

Wood Anatomy

Trees that are found in Kenya are all hardwoods, which have a more complex anatomy than softwoods. Common diagnostic anatomical features that were found include vasicentric tracheids, alternate intervessel pitting, vessel elements, scalariform pitting, and ray cells. Vasicentric tracheids occur near vessel elements, are closed at the ends, and have pits along the sides. Intervessel pitting occurs along the wall joining two vessels; this allows molecules to pass back and forth between vessels. When the intervessel pitting is alternate, this means that the pits have an irregular or diagonal pattern and are crowded together. Vessel elements are hardwood's largest cells. Scalariform pitting is "elongated barlike pits in parallel, ladderlike arrangements (Hoadley 1990:37)". Most cells in wood grow vertically, but a small percentage of them grow horizontally and are called ray cells (Hoadley 1990).

Individual Results

Figure 1 shows experimental tool #6, which is a basalt flake that was used for whittling *Salvadora persica* for 10 minutes. The anatomical features found include a vessel element and alternate intervessel pitting. There was residue visible macroscopically along the longest edge on the dorsal side. There were two small spots of residue visible on the ventral side and these were fibers that had wrapped around the edge.

Figure 2 shows experimental tool #14, which is a basalt flake that was used for incising *Commiphora* sp. for 10 minutes. The anatomical features found on this tool, were wood fragments and vasicentric tracheids with visible pits.

There was residue visible macroscopically along one edge both on the dorsal and ventral surfaces.

Figure 3 shows experimental tool #8, which is a basalt flake that was used for cutting *Acacia* sp. for 10 minutes. Diagnostic features found were a wood fiber, a vessel element, and a radial section of ray cells. This tool also had residue visible macroscopically along one edge both on the dorsal and ventral surfaces.

Figure 4 shows archaeological tool FxJj18IHS-5003, which is a split basalt flake. The features diagnostic of wood on this tool are alternate intervessel pitting and possible scalariform pitting. There was residue visible macroscopically along the split edge on the dorsal surface and on the corner opposite the split edge on the ventral surface.

Figure 5 shows archaeological tool FxJj18GU-5020, which is a basalt flake. Found on the flake was vessel elements and tracheids with pitting. There was residue visible macroscopically on one edge of the dorsal surface and on the opposite edge on the ventral surface.

The final figure, Figure 6, shows archaeological tool FxJj17A-1092, which is a basalt flake that has wood fragments and ray cells. This tool had residue visible macroscopically on the dorsal surface.

Discussion

The diagnostic anatomical features such as pitting, ray cells, vessel elements and tracheids, both on the experimental tools and on the archaeological materials show that wood is present in both cases. Both experimental tool #6 and tool FxJj18IHS-5002 have residue with alternate intervessel pitting and both experimental tool #8 and tool FxJj17A-1092 have ray cells. These anatomical features are not diagnostic to genus and species, but they do confirm the identification of hardwood.

The results of this study have possible implications for hominid behavior. The confirmed wood residue on stone tools at 1.5 mya shows that early hominids were utilizing wood. However, this cannot be narrowed down to a specific task or behavior that they were performing. The ethnobotany suggests possible behaviors and why certain plants are economically feasible for use by the Dassanetch in the Koobi Fora area today. The same plants may have been economically viable in the past but not necessarily for the same purposes. There are limits to using the Dassanetch as a model for early hominid behavior. For one, the Dassanetch are agro-pastoralists and early hominids were foragers. Also, the Dassanetch have had 1.5 million years of evolution compared to the early hominids that made the original artifacts. The Dassanetch have not been living in isolationary time-warp and, as Chris Gosden says, “we have no justification for using the present of one society simply to interpret the past of another, especially as the present is often seen as a latter-day survival of stages passed elsewhere in the world (Gosden 1999:9).” Nevertheless, the identification of wood residues is possible through experimental archaeology and modern groups do provide ideas about possible uses of plants in the past.

Conclusion

Analysis of microscopic residue on stone tools is a valuable resource, because it provides evidence of what would otherwise be invisible. Wood may be nonexistent in the archaeological record at 1.5 mya, but that is not because early hominids were not using wood. Rather, wood cannot survive macroscopically for that long. The earliest preserved wood that has been found is from 400,000 years ago (Thieme 1997). But wood was being utilized far before that. Because evidence of a wood industry

would not survive on a macroscopic level at 1.5 mya, microscopic analysis of the residue left on stone tools is the only indicator available to be able to infer hominid behavior. The results of this study show that wood residue is present on tools from the Okote member and this strengthens the argument for a woodworking industry at 1.5 mya at Koobi Fora.

Figure 1. Experimental Tool #6, Basalt Flake, whittling, *Salvadora persica*, 10 minutes; A) vessel element; B) alternate intervessel pitting; and C) alternate intervessel pitting.

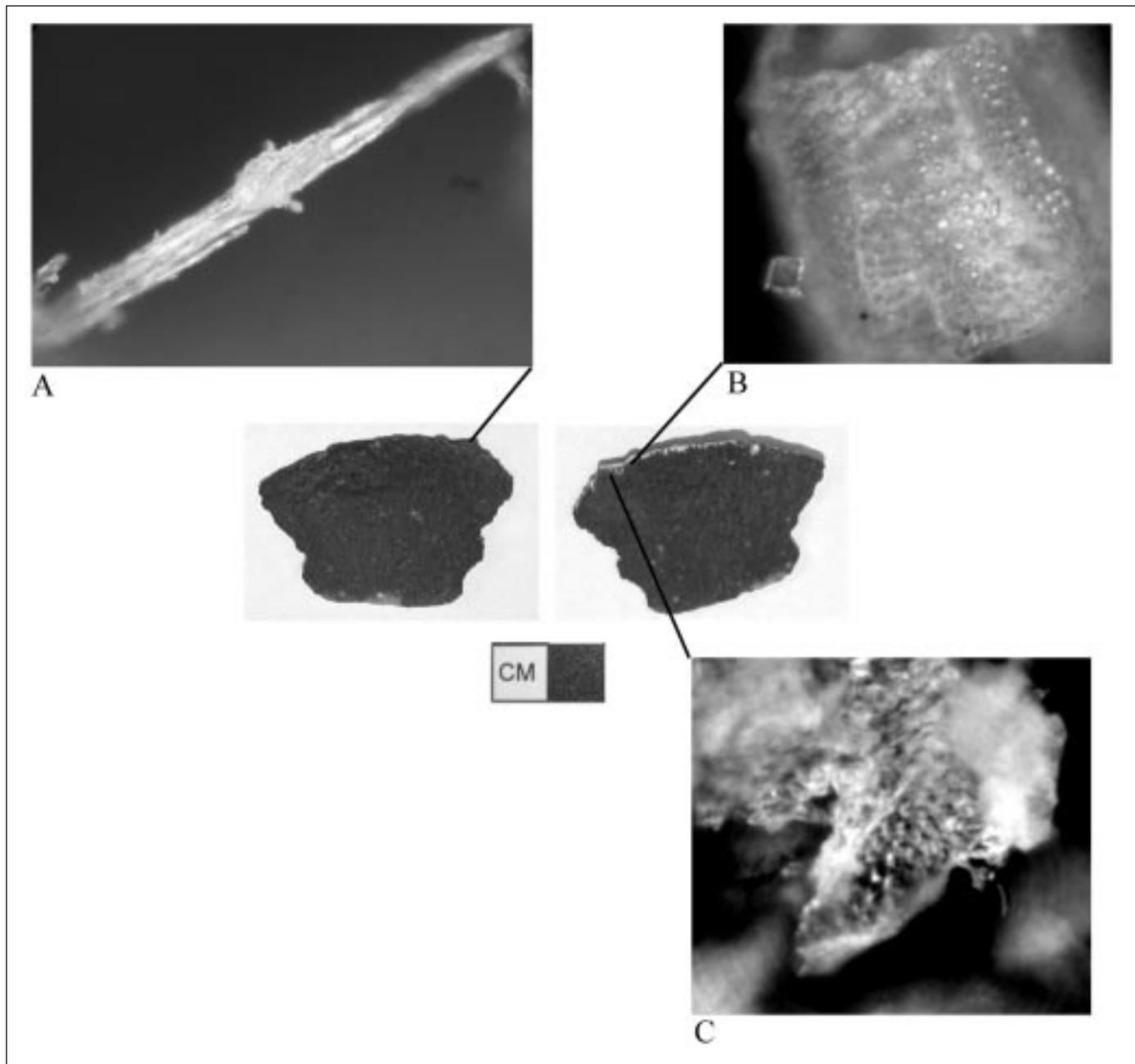


Figure 2. Experimental Tool #14, Basalt Flake, incising *Commiphora* sp., 10 minutes; A) wood fragments; B) vasicentric tracheids, arrows indicate pits.

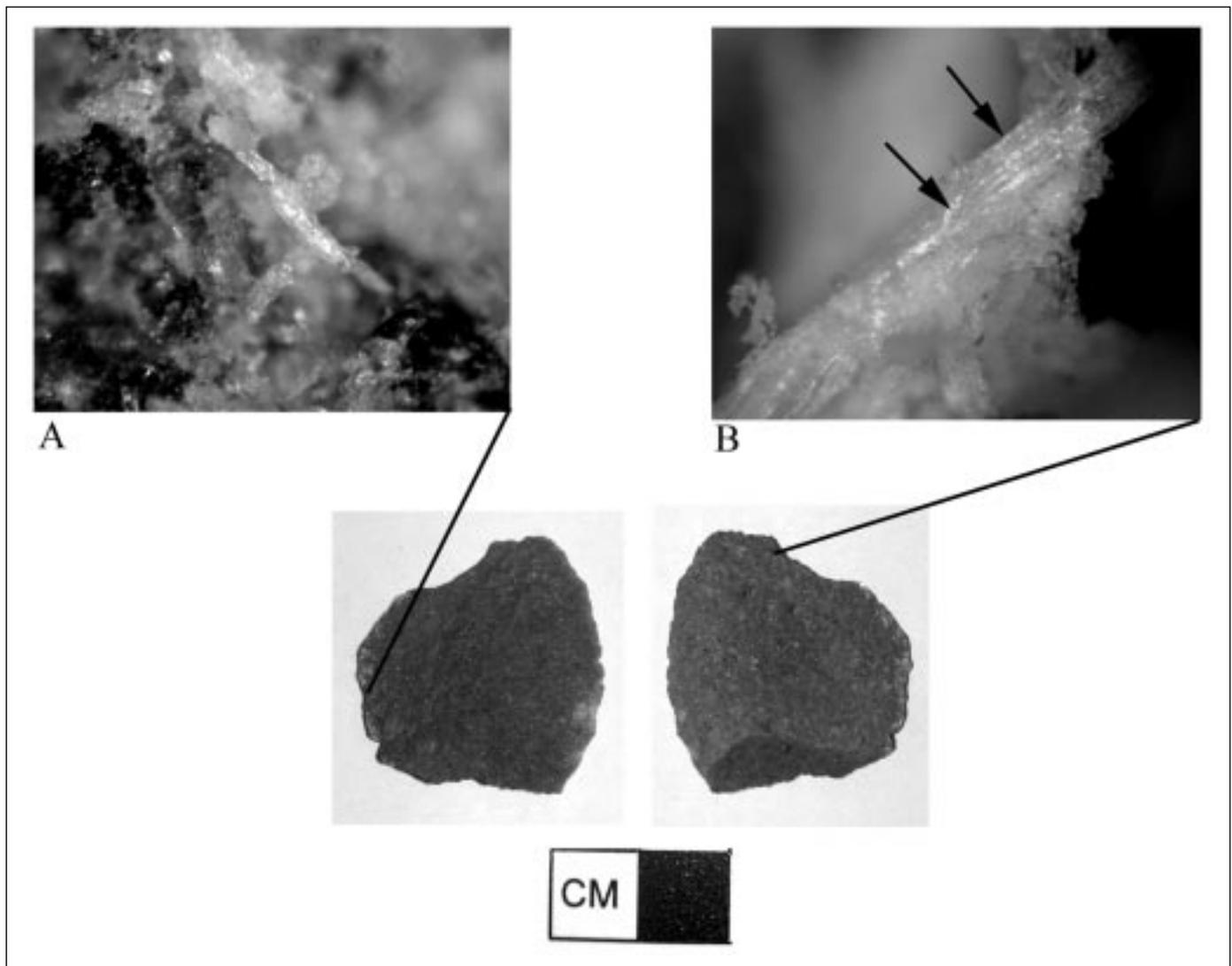


Figure 3. Experimental Tool #8, Basalt Flake, cutting *Acacia* sp., 10 minutes; A) wood fiber; B) vessel element; C) ray cells, radial section.

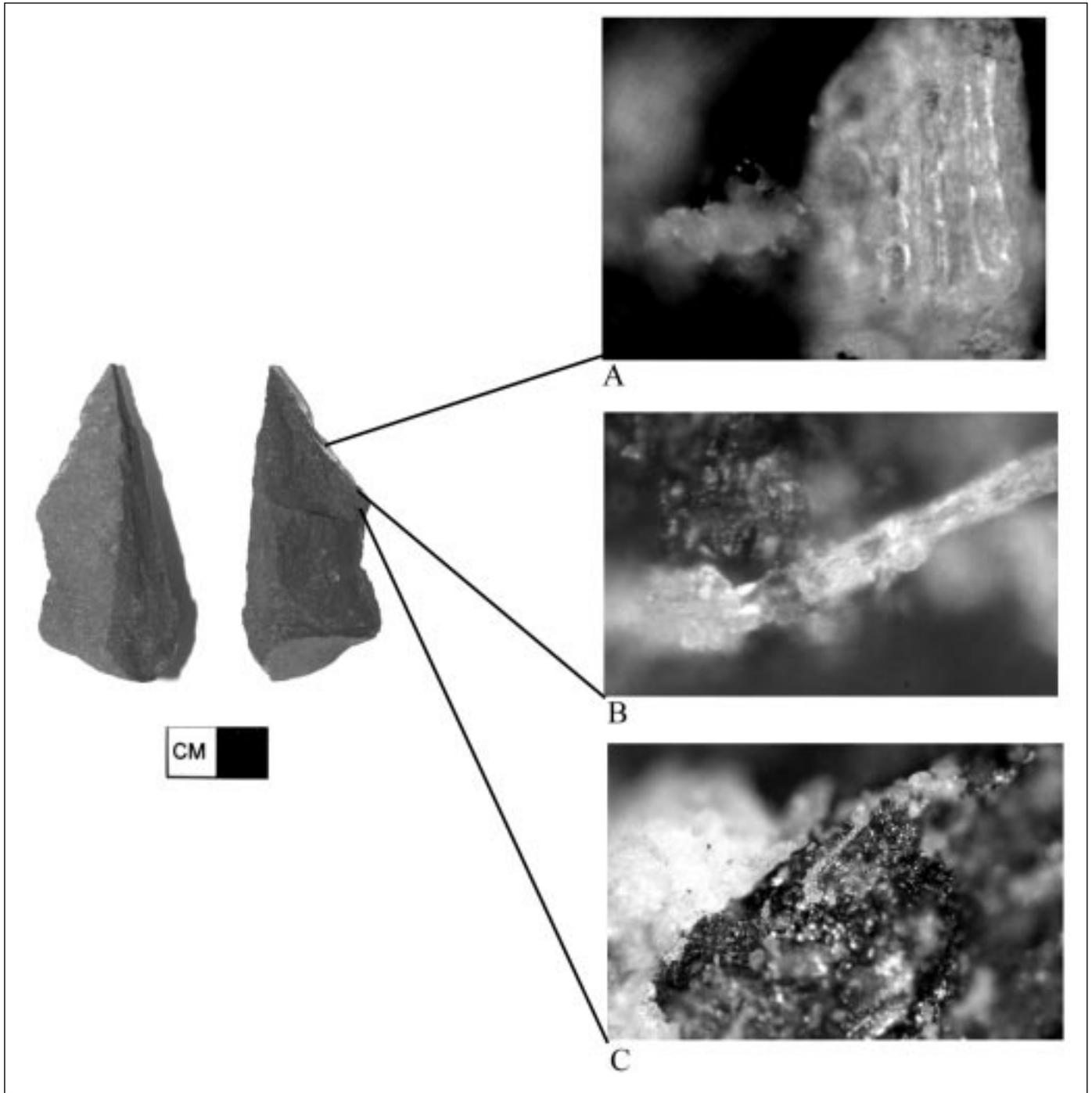


Figure 4. Fxjj18IHS-5003, Split Basalt Flake; A) alternate intervessel pitting; B) possible scalariform pitting

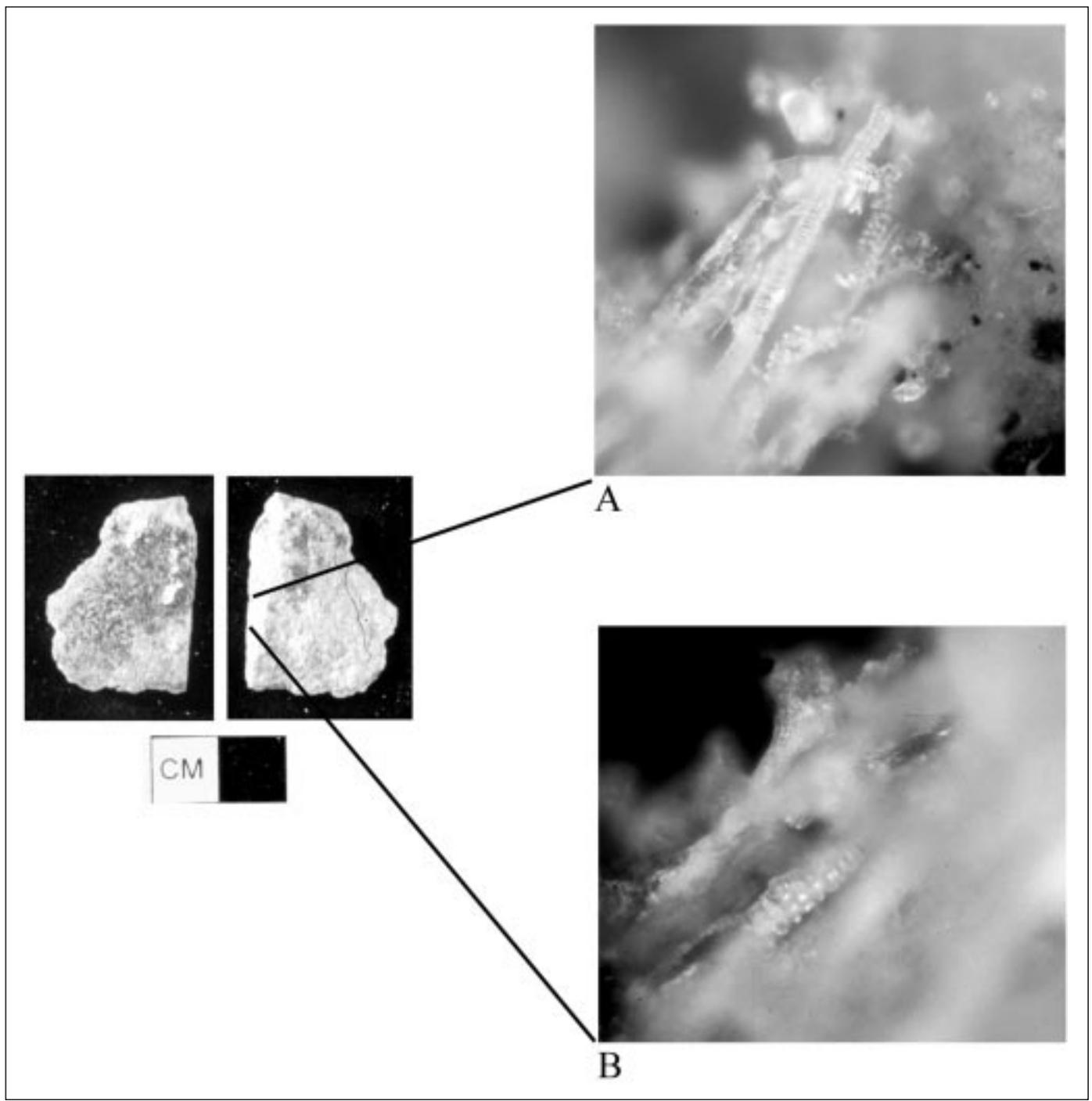


Figure 5. Fxjj18GU-5020, Basalt Flake; A) vessel elements and tracheids; B) vessel elements and tracheids with pitting.

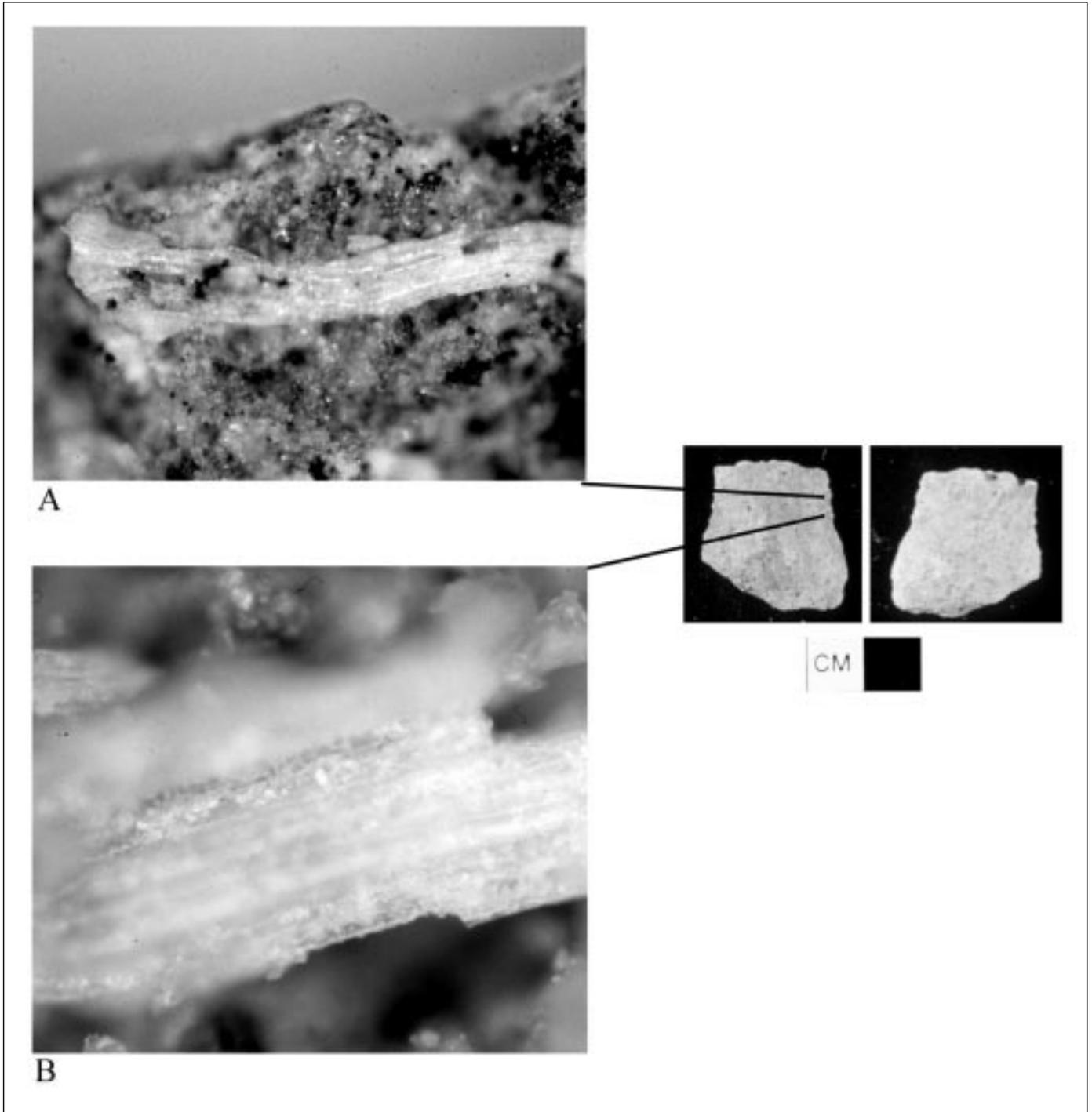
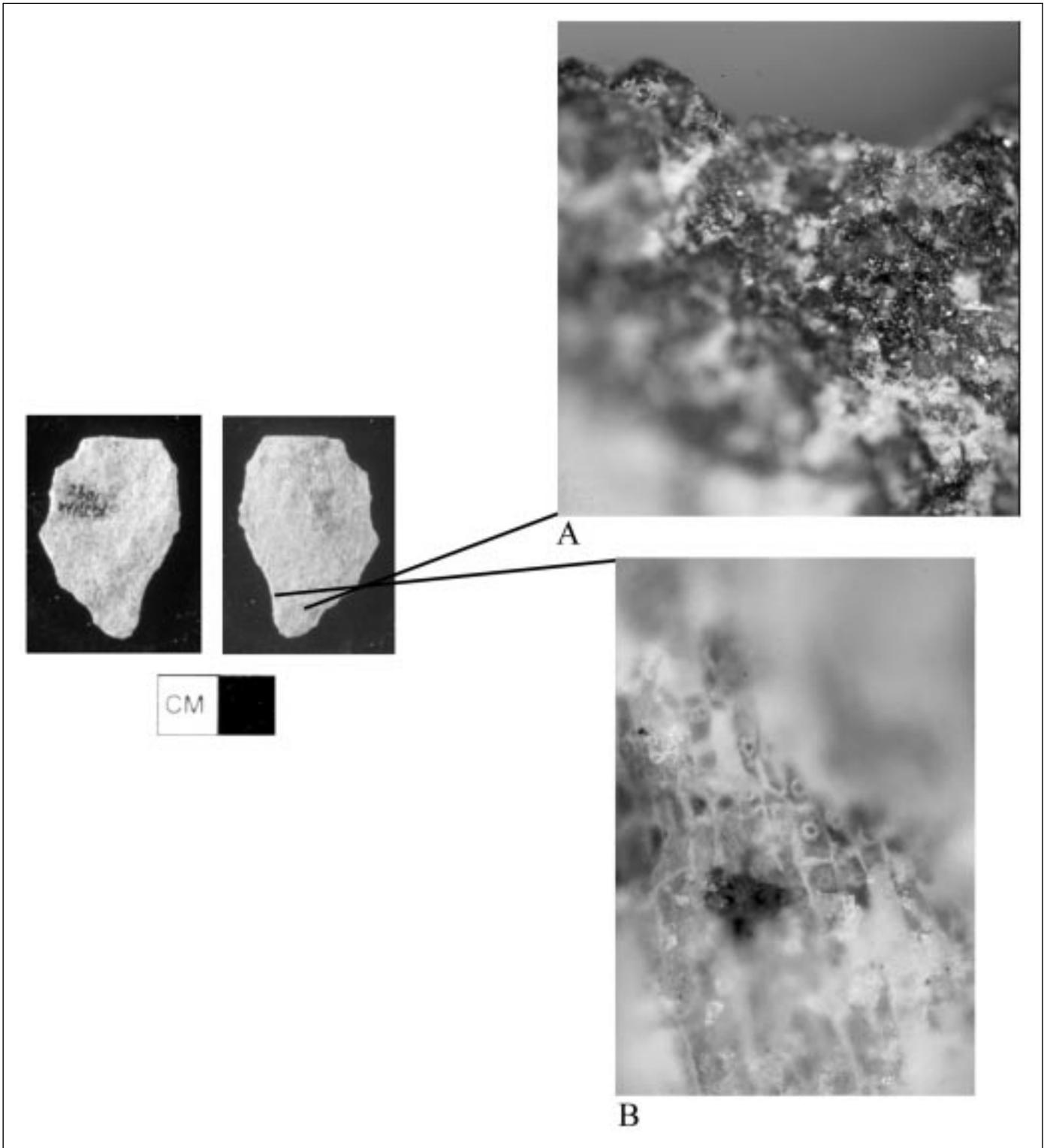


Figure 6. Fxj17A-1092, Basalt Flake; A) wood fragments; B) ray cells



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Images of Marriage in American Culture: An Analysis of Popular Music From the 1950s to the Early 1960s



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ABSTRACT

This research is intended to examine perspectives of marriage and love by examining mainstream music from 1952-1964 and is a small portion of a larger research in progress. The author will look at the history of rock-and-roll and the interacting role of culture and music. Songs were identified by random sampling, word searches, and Top 40 Billboard charts from 1952-1964. The research should note significant gender differences about how marriage is perceived and will examine changes between the periods concerning how marriage is portrayed. Overall, music lyrics perceived marriage positively.

Western society has valued marriage as a social institution throughout history for various reasons. Historically, people have married for religious beliefs, financial and economic support, and for romantic love. Although recent studies confirm that the divorce rate has climbed in the U.S. over the past years, there does not seem to be an overwhelming cry from society to do away with marriage. Some researchers have predicted that over 90 percent of American women and men will eventually marry (Fisher, 1992, p.65). In general, couples still want to marry despite studies reflecting high matrimonial failure rates.

The question "What is marriage for?" is often asked, yet has become increasingly more difficult to answer as time passes. Our definitions and attitudes toward marriage and love continue to change. Love and romantic longings appear to be a consistent theme within American culture; however, what was a norm in 1955 is not so now. As we move further into the 21st Century, the social transformation of marriage will continue. This study examines popular conceptions of marriage within the context of mainstream music. Unlike other studies that have examined marriage in an empirical and statistical manner, many have failed to look at how aspects of our culture, such as music, reflect beliefs about marriage. Studies about marriage often look at age, gender, class, and inequalities between married partners. Marriage is a social construction; created by humans to be used by humans. Thus, attitudes toward and about marriage will evolve, change and expand. Charts, data, bar graphs and other numerical means used to grasp changes in marriage do not fully encompass the cultural norms and beliefs about marriage. My study uses music as a reflection of cultural ideals.



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Popular music is an example of mass culture and can be extracted to examine its relationship with current societal perspectives. Texas Tech Sociologist, David Whitt, in his study of popular music's impact on social behavior, found that such a parallel exists between music and behavior. Whitt examined music from the 1950s to the 1970s. His observations suggest that the lyrics of popular music during this period support the sociological perspectives and views of the day (1978). Academic, music journalist, and editor of the scholarly journal *Popular Music*, Simon Frith asks "Why Do Songs Have Words?" He proposes that certain forms of music can be a form of "ideological expression" (Frith, 1987, p 81). For example, in the 1960s music became a function of exposing false ideology (Frith, 1987, p 85). Frith's essay suggests that popular music reflects real social conditions (1987). Experts have even proposed that music can be used as a teaching tool. Sociologist Thomas Burns and professor at University of Utah, Theresa Martinez, argue that popular music can be used to "illuminate abstract concepts in social theory." They also state that music can be used to store relevant sociological theoretical concepts (1993, p 117). Burns and Martinez assert that popular culture is a living and breathing phenomenon and that it mirrors life "in its extremity, its mediocrity, its absurdity, its distortion and in its profundity" (1993, p 119). Society apparently is influenced by popular music. Songs and their lyrics have been suggested to work effectively as teaching tools to explore sociological and cultural concepts and are used to examine behaviors and expressions of human conditions during a specific period of time. Studies such as these contribute toward my study, confirming that music can be reflective of cultural ideology.

More specifically, music can be examined based on the content of the lyrics. While the studies previously mentioned touch on how music affects behavior and culture, Brent Shea, a social psychologist at Sweet Briar College, looks at content in the lyrics of American popular music. Shea's major findings included a steady decrease in the number of love songs from 1955 to 1970. Shea also found no increase in references to sexual relationships, but rather a decrease in songs dealing with romantic and long-term involvement (1971).

Current Research: Themes and Methods

The purpose of my study is to compare the popular conceptions about marriage and love beginning with the 1950s. This paper explores a small part of my research, focusing on the time period from 1952 thorough 1964. My analysis of the 1950s and early 1960s are divided into two parts. The 1950s section includes 1952 through 1959. The early 1960s are the years from 1960-1964. This research uses musical lyrics as a window into past society norms and beliefs. I also explore the interacting role between society and popular music. This study primarily looks at American popular contemporary music.

The method for this study consists of a literature review of American popular music and marriage trends for background information. Songs and lyrics from 1952 through 1964 are analyzed, in order to make connections and illuminate the changing patterns of the contemporary American view on marriage and romantic relationships. Songs are identified by a thorough review of chart data compiled from Joel Whitburn's *Pop Annual: 1955-1999*. Portions of chart data from Whitburn's book were constructed from *Billboard Magazine* from information provided by

the Broadcast Data Systems, which electronically monitors radio play and collects points of sale information from music retail outlets. Billboard charts have been widely used and have maintained a long history of data analysis of popular tunes. I examine who wrote the song, when the song was written, what peak position it reached, and what the author's message and intent was. I specifically studied the context of how marriage was used in song lyrics. I focused on lyrics that contain words having reference to marriage, such as: marry, married, marriage, wedding, bride, ring, bells, Mr. and Mrs., and other such descriptives. Most of the songs I studied were in the Top 10 charts.

Several themes emerged within the music in the 1950s and early 1960s. Music in the 1950s was overwhelmingly about courtship and dating, containing themes such as an emphasis on ownership, the belief that marriage is a natural progression after finding "true love," and that marriage is the solution to urges and sexual feelings. Songs recognize sex, but it is only acceptable in marital relationships. All the songs examined in the sample only pertained to heterosexual relationships. Belief in longevity and monogamy were prevalent in songs examined. During the early 1960s, changes occurred in how females perceived courtship and marriage. These changes are significant in demonstrating a change in thought. For instance, during the early 1960s, female vocalists began to sing about marriage, how to attract a guy, how to keep him, and how to behave in a relationship. Overall, popular music during the 1950s and early 1960s portrayed marriage positively, encouraging men and women to find their "one and only" and to remain together forever.

History of Rock-and-Roll

The history of rock-and-roll is important to consider when scrutinizing the role of how music impacts society and its members. Sociologist C. Wright Mills (1959, p 3) wrote "neither the life of an individual nor the history of society can be understood without understanding both." He argued that broader social processes couldn't be disconnected from individual events. This is true in regard to the interaction between music and society. In the 1950s, rock-and-roll changed many youth in America. Record promoters and marketers were credited with the growth of mass media programming which helped lead to the invasion of rock-and-roll into almost every American teenagers' radio. Rock-and-roll epitomized everything middle class parents feared most for their children. Even the term "rock-and-roll" was originally alluded to a sex act (Tame, 1984, p 192). The rise of rock-and-roll music in the teenage rebel culture challenged many of the social norms that once isolated the white middle class (Palladino, 1996, p 152). Rock-and-roll lyrics dripped with sexuality and were considered by some a threat to society (Palladino, p 155).

Teenage consumers were spending nearly \$50 million a year on records in the 1950s. Despite the initial fear of rock-and-roll impacting youth negatively, some popular youth magazines admitted that rock-and-roll wasn't "all junk" (Palladino, p155). In 1958, a *Seventeen* magazine columnist explained that teenagers all share a host of problems and interests and that it is no surprise that they created their "own special brand of music" (Palladino, p 155). In 1944, researcher Peatman reported that a considerable number of popular tunes fell into three categories. Songs were attributed to either "happy in love," "sad in love," or "novelty songs with sex interest." This trend continued into the late 1950s. Again in 1957, a

researcher and scholar Donald Horton concluded that music lyrics had changed very little since the earlier study. Horton's other finding was that nearly 87 percent of popular song lyrics pertained to the "drama of courtship" (Hirsch, 1971, p 372). Music from the 1950s filled homes and airwaves with songs about love, courtship, and sex.

Mass promoting led American popular music to be almost entirely drowned with teen idols (Carlin, 1988, p 77). Researchers began to examine this new youth subculture. In 1968, researcher Sebald expressed that American teenagers "exhibit special admiration for recording stars." Sebald also concluded that youth in the early 1960s related and identified with recording artists (Cole, 1971, p 389). By 1966, a change in American popular music occurred. Studies suggested that only 70 percent of popular hits concerned the stages of courtship (Hirsch, 1971, p 373). This was a 17 percent drop from 1957. The prevailing song lyrics revealed more specific concerns such as the role of the individual in a conventional world (Hirsch, p 373). By the mid 1960s and early 1970s, music took another twist. Music critic Richard Carlin argues that music from the late 1950s to the late 1960s brought new standards to music in the United States. Carlin proposes that rock music was far more "lyrically, melodically, and instrumentally," complex and interesting than the sounds that preceded it (Carlin, p 104). The "Woodstock Nation" began to show the country how the youth could behave. Music was the youth's own secret world.

The Relationship of Music and Culture

Music and society have an interacting relationship. Music influences culture and culture influences the genre of music. In the 1950s, teenagers were the largest age group to purchase records. The popular record is indeed a cultural

reflection of the youth subculture and often transmits views and ideas between the youth (Cole, 1971, p 389). American teenagers exhibited much admiration for recording artists, many of whom they identified with. Music for the youth in the 1950s through the early 1960s became their voice and now can be used as a window into their views on marriage, dating, and romance. Horton concluded in his report that popular music was "conventional language for the use of dating" (Firth, 1987, p 101). From this perspective, lyrics become a form of dialect for couples and allow for endless emotional and expressional possibilities. When people lack the words to describe their feelings, songs become a vessel to transport those emotions. Firth argues that songs give the audience the romantic terms to articulate their feelings and experiences, but do not give their emotions to rationalize with (1987, p 102).

Popular music has been criticized for its exclusion of reality. Nevertheless, popular music is a form of mainstream culture that interacts with its recipients as well as aids in creating the recipients' ideology and social norms. However, it is important to note that teenagers do not always interpret the same meaning as intended by the songwriters, and social scholars and researchers will also interpret a different meaning from songs (Hirsch, 1971, p 377). Teenagers tend to be attracted to the song's overall sound, rather than the lyrics. However, youth will likely remember catchy songs from their past into adulthood and future relationships. Their exposure to particular songs will be remembered throughout their lifetime. An example of this is reflected in the importance and significance of selecting a "first dance song" at wedding receptions. Many mainstream tunes from the 1950s and mid 1960s still remain popular songs to express their love in the "first dance" song. Music not only impacts the youth,

but also adults. Not all music is exclusive of reality, especially when it helps mold their reality of romantic love.

The 1960s are considered by many experts and historians to be a time of great transformation in the United States. The youth of the 1960s began to stop accepting traditional views. Ron Eyerman and Andrew Jamison, social psychologists from the University of Lund in Sweden, researched American social movements and cultural transformation in 1960s popular music. Eyerman and Jamison extended the 'cognitive approach' to their study. This approach primarily views social movements as the producers of knowledge (Eyerman & Jamison, 1995, p 450). In other words, music is influenced by the social events and conditions that are occurring at a particular time. Social movements articulate the visions, the knowledge, and voices from history.

Analysis of Lyrics from 1952-1959

Many songs of the 1950s were about courtship and dating. Songs such as "A Boy Without A Girl" (1959), "Young Love" (1957), "Honeycomb" (1957) "Born To be With You" (1956), "Sincerely" (1955), and "True Love" (1956) were reflective of romantic love and dating. Marriage was also a popular topic in songs and often sung in a hopeful and enduring manner. Not only were songs specifically about love and dating, but songs about getting married or proposing to be married dominated music from the 1950s. Songs such as "Hawaiian Wedding Song" (1959), "I Am Gonna Get Married" (1959), "Marianne" (1957), "The Bus Stop Song" (1956), "Love and Marriage" (1955) and "Band of Gold" (1956) all were top hit tunes that spoke about marriage and love.

Most of the songs implied heterosexual relationships. My study had no variation on sexual preference

between 1952 through the mid 1960s. The song "A Boy Without A Girl," sung by Frankie Avalon in 1959 and peaked at No. 10 illustrates this notion:

A boy without a girl is a song
without a tune.
Is a year without June, my love.

A boy without a girl is a day
without a night.
Is a star without light, my love

In Tab Hunter's No. 1 song in 1957, "Young Love," two themes emerged. One reflects the assumption that only heterosexuals could develop long-lasting, monogamous and romantic relationships in the music from the 1950s:

They say for every boy and girl,
There's just one love in this whole
world.

My analysis demonstrates other notable patterns within the song lyrics from 1952 to the mid 1960s. I found similar findings to Richard Cole, from the University of Minnesota, who determined that music from the first half of the 1960s demonstrated a dramatic shift from a single vocalist, usually male, to group vocalists. Cole's study also concludes that single male vocalists sang 53 percent of the lyrics from 1960-1964 (1971, p 391). Likewise, selected songs from my study during the late 1950s and early 1960s support Cole's research, concluding that there was an increase in group vocalists and a decline in single vocalists.

Unlike previous studies that examined gender differences between song artists, this study also takes a look at the different messages that are being portrayed by the musicians. For instance, male singers from the 1950s and early 1960s tended to give advice about how to obtain a bride or how to

get married and/or asked for promises and vows from his partner. Males often made mention of caring for their bride or future bride through financial support, thus playing the protector role. My study reflects that females sang very little about marriage specifically. When females would sing about marriage, they were often the protectors of virtue, were waiting to be asked to get married, were longing for marriage, or preparing for the role of being married. Until the 1960s, males sang about marriage more often than female vocalists; however, by the mid 1960s, the ratio began to even out.

The other theme in Tab Hunter's song "Young Love," is that marriage follows true love. The singer states that he knows what love is and because of that, he is confident that their love is reflective of a "deep emotion." However, his feelings must be verified from his lover and in doing so, their vow to one another will signify love for eternity. The singer is suggesting that true love leads to marriage. The song reads:

Young love, first love.
Filled with true devotion.
Young love, our love.
We share with deep emotion.

Just one kiss from your sweet lips,
Will tell me that your love is real.
And I can feel that it's true.
We will vow to one another,
There will never be another,
Love for you or for me.

Hunter's lyrics describe a popular conception that appears within music during the era of the 1950s, which is that true love equals marriage. "First love" is meaningful enough to enter into a marriage. Not only does "Young Love" reflect the cultural ideals about true love and matrimony, but the song also assumes an appreciation and acceptance of monogamy. The belief that love and

marriage involve one person forever, a soul mate, the “only one” is another prevailing perception in many songs from the late 1950s. Donnie Brooks touches on this observation in “Mission Bell” that peaked at No. 7 in 1960:

My love is higher than a mission bell.

Deeper than a wishin’ well
Stronger than a magic spell.
Wider than the widest sea
Longer than a memory.

Give me your heart of gold
Your heavenly magic touch
To cherish, have, and hold.

Donnie Brooks demonstrates with this song the importance of his love being deep, true and enduring. In order to “have and to hold,” the singer suggests that he must first have the female’s “heart of gold,” otherwise known as a solid and true love. Andy Williams’ “Hawaiian Wedding Song,” which peaked at No. 11 in 1959, also shows this:

Here and now, dear.
All my love I vow, dear.
Promise me that you will never
leave me,
I will love you longer than forever.

Now that we are one,
Clouds won’t hide the sun.
Blue skies of Hawaii smile,
On this, our wedding day.

Williams expresses a need for a monogamous partner. Indeed, he expects a partnership for eternity. In asking for her vow, the result will be “we are one,” perpetuating their love for each other.

The belief that marriage is a natural progression in life and is one to expect is prevalent throughout songs. Both “Young Love” and “A Boy Without A

Girl” touch on this notion. Dean Martin explains how love inevitably evolves into marriage in his song “Memories Are Made of This.” Martin gives a recipe for how true love should result in marriage. His song was a No. 1 hit in 1956:

Take one fresh and tender kiss,
Add one stolen night of bliss,
One girl, one boy, some grief, some joy
Memories are made of this...
Then add the wedding bells
One house where lovers dwell
Three little kids for flavor.
Stir carefully thru the days
See how the flavor stays.
These are the dreams you will savor.

Frank Sinatra’s “Love and Marriage,” peaked at No. 5 in 1955. Sinatra expresses that love and marriage are not interchangeable. Marriage is viewed as a social institution that is not to be belittled. In essence, Sinatra is saying that marriage needs love and both “can’t have one without the other.” He emphasizes the emotional context of marriage:

Love and marriage, love and marriage.
Go together like a horse and carriage.
This I tell you brother,
You can’t have one without the other.

Love and marriage, love and marriage
It’s an institution you can’t disparage.

Don Cherry’s 1956 No. 4 hit in 1956 “Band of Gold” also shows that true love should result in marriage:

I’ve never wanted wealth untold.
My life has one design.
A simple little band of gold,
To prove that you are mine.

While Don Cherry supports the common theme in lyrics from the 1950s, that true love evolves eventually into marriage, he also comments on the

importance of having the wedding ring to prove that he found true love. Coinciding with the various lyrical themes about marriage and courtship, another larger trend in music from the 1950s is the prevalent use of matrimony language, such as bells, rings, chapel, and other such words. This trend appears to be reflective of a kind of public material obsession, thus love becomes manifested in material items such as large diamond rings. A large engagement ring for example, also signifies the male role of providing for his new bride. Perry Como’s No. 1 hit in 1957 “Round and Round” is also reflecting on the significance of finding true love and the importance of finding the right ring to put on his true love’s hand:

Find a ring and put it round,
round, round.
And with ties so strong that two
hearts are bound.
Put it on the one you’ve found,
found, found.
For you know that this is really love.

Again, when music from the 1950s made mention of marriage, the lyrics contained common symbols that carried specific meanings that listeners understood. The symbolism of the wedding ring in the 1950s was a reflection of ownership and a display of accomplishment. Elaborate weddings in the 1950s were physical manifestations of love. The significance of singing about the ring in 1950s music could mark the importance and seriousness of the belief in marriage. Gene Vincent and the Blue Caps demonstrates in their 1956 hit song:

Those wedding bells are breaking
up that old gang of mine.
Well, there goes Jack, there goes Jim
Strollin’ down lovers’ lane.
But they don’t seem the same.
Life gets that lonesome feeling.
Then I hear the church bells ring.

Andy William "Hawaiian Wedding Song" is another example of common use of symbols in songs about marriage:

This is the moment I've waited for.
I can hear my heart singing.
Soon bells will be ringing.

Out of the 20 songs from the late 1950s that I examined, only three carried a negative slant. For instance, Patti Page sang, "I Went to Your Wedding" which was No. 1 for 10 weeks in 1952. In this song, the singer is heartbroken; however, she does not criticize the institution of marriage. In "I Went to Your Wedding," Page sings about losing her old flame who married another woman:

I went to your wedding,
Although I was dreading the
thought of losing you.
The organ was playing,
My poor heart kept saying, "Your
dreams, your dreams are through."

She came down the aisle, wearing a
smile.
A vision of loveliness.
I uttered a sigh, whispering
goodbye.
Goodbye to my happiness.

Oh your mother was crying.
Your father was crying.
And I was crying too.
Teardrops were falling,
Because we were losing you.

Lloyd Price sang a song titled "Where Were You (On Our Wedding Day)?" It peaked at No. 23 in 1959. The song portrays a man who is very distraught because his bride left him at the altar. While bemoaning his personal experience, he remains committed to the institution of marriage, but cannot imagine marrying anyone but his first love. Price agrees with Sinatra and

others, that marriage was something that was reserved for his first love, except his first love left him. Thus, he now feels he has a life of loneliness.

It's been ten years or maybe more.
I never got married and that's for sure.
You broke my heart and now I know
I've been a fool for you so here I go...
Whoa oh-give me my ring back-
whoa oh...

For Page and Price, being single spoiled their belief in what true love was supposed to be like. Singlehood meant a life of loneliness and failed dreams. The third negative song was "I Got a Wife," sung by The Mark IV. This song establishes a protocol for what happens when a wife puts too many demands on her husband; he'll run away. This song breaks social trends that music from the 1950s has established thus far, in that it paints a picture of a less than perfect marriage. However, the artists do not criticize the institution of marriage per se, but rather express discontentment about a particular relationship a husband has with his wife:

I got a wife at home
I got a wife; she's the apple of my life
But I wish she would leave me alone

When I hear
Hang your clothes up
Wipe your feet off
Goodness sakes don't slam the door
Fix the socks and dry the dishes

He don't love her anymore
There he goes right out the door
He'll be back 'bout half past ten
And then she'll start right in again.

As music rolled into the early 1960s, a gender difference about how music portrays marriage emerges. Female vocalists sang about marriage and dating in a recipe format, containing hints on

how to find a man to marry, how to keep him, and how to behave once a man is yours. I am not suggesting that "I Got a Wife" solely changed the course of how female vocalists portrayed marriage in the 1960s, but it certainly added to the new discourse. In the next section, I will discuss this point in more depth.

Analysis of Lyrics from 1960-1964

In the early 1960s, a subtle shift in musical lyrics occurred. Beginning in the early 1960s, there was a significantly larger population of female vocalists who sing about courtship, love, and marriage; an increase from the 1950s. Females and males still portray marriage in a different manner. Females by and large, sang fewer songs specifically geared toward marriage, focusing on courtship, dating, and romance. However, if the songs are about marriage, they are in a recipe format of how to find a man to marry, how to keep him, and what to do to when she has the man. Females often express in their lyrics the waiting for and dreaming of getting married. Females in the 1950s were expected to marry. Young adolescents were expected to protect their innocence and preserve a good name for themselves if they expected to marry well (Palladino, 1996, p 18). These social norms seem to have carried into the music of the early 1960s. In the No. 5 hit in 1963, "One Fine Day," the Chiffons demonstrated how females did not sing about marriage explicitly and also defines the female's role of waiting for her lover to "settle down" with her. The vocalists in the Chiffons remained the keeper of virtue in the context of marriage and courtship:

One fine day, you'll look at me.
And you will know our love was
meant to be.
One fine day, you're gonna want me
for your girl.

The arms I long for will open wide.
And you'll be proud to have me,
right by your side.
One fine day, you're gonna want me
for your girl.

Though I know you're the kind of
boy
Who will want to run around
I'll keep waiting and someday,
darling,
You'll come to me when you want
to settle down.

Dusty Springfield, in her 1964 No. 6 hit, "Wishin' and Hopin'" gives another recipe for females to follow in order to keep a man. Songs in the late 1950s and early 1960s, like Springfield's, described how females need to have a man and how to ensure his satisfaction:

Wishin' and Hopin' and thinkin'
and prayin'.
Plannin' and dreamin' each night of
his charms,
Won't get you into his arms.

So, if you're lookin' to find love
(you can share)
All you gotta do is
Hold him and kiss him and love
him
And show him that you care.

Show him that you care just for
him.
Do the things he likes to do.
Wear your hair just for him, 'cause
You won't get him by
Thinkin' and a-prayin' wishin' and
a-hopin.'

In her No. 10 hit in 1963, "Just One Look," Doris Troy sustains the female's perspective of courtship and dating. Note that the singer's role is fairly passive, for she is just thinking to herself. However, she has taken the incentive of scheming to get the guy:

Say you will, will be mine
Forever and always, oh-oh, oh-oh.
Just one look and I knew
That you were my only one.

I thought I was dreaming, but I was
wrong, yeah, yeah, yeah.
Oh, but I'm gonna keep on schemin'
Till I can make you, make you my
own!

For Doris Troy, falling in love just took one look. She fell in love at first sight and was determined to convince the person she was infatuated with to want her too. The notion that one must find their "true and only love" in order to marry seems to have changed in the 1960s. Now, love can be determined by mere physical attraction.

However, the importance of keeping the guy still remains prevalent in female vocalist songs in the 1960s. Mary Wells in her number one hit, "My Guy," released in 1964, expresses the role that she will maintain in order to keep her "guy," which primarily means that she will be faithful and monogamous:

I'm telling you from the start I can't
be torn apart from my guy.
Nothing you could do could make
me be untrue to my guy.
Nothing you could buy could make
me tell a lie to my guy.
I gave my guy my word of honor,
To be faithful and I'm gonna.

Mary Wells' perspective of true love is still maintained through monogamy and faithfulness of her partner's needs. Even though marriage is not explicitly stated, the singer does use language reflective of marriage to explain her devotion.

Darlene Love in her 1963 No. 39 hit, "Today I Met The Boy I'm Gonna Marry," also shows that love can be at first sight, and that she immediately knows she is going to marry this person:

Today I met the boy I'm gonna
marry.
He's all I wanted all my life and
even more.
"Here comes the bride" when he
walked through the door.
Today, I met the boy I'm gonna
marry.

The boy who's life and dreams and
love I wanna share.
The boy whose on my hand a band
of gold I bear.
The band of gold I always dreamed
I'd wear.

Marriage from the artist's perspective was a life long dream, something that she longed for. She imagines her love developing into marriage and she sees marriage as dreamy and enduring. Female vocalists, The Dixie Cups, sing about the happiness and longevity of marriage in the No. 1 hit in 1963, "Going to The Chapel."

Bells will ring
The sun will shine.
I'll be his and he'll be mine.
We'll love until the end of time.
And we'll never be lonely anymore,
Because we're...
Goin' to the chapel and we're gonna
get married.

From these females' perspective, marriage is seen as a blissful and wondrous event for a girl to wait for. Marriage is portrayed as long lasting and fulfilling until the end.

Conclusion

Overall, songs within the first period of music from 1952-1959 were overwhelmingly about courtship, love and romance and had the instilled belief that once "true love" was achieved, the next natural progression was to get married. Music also was reflective of the belief that marriage and romantic

relationships were reserved for heterosexual couples, with no variation existing within the lyrics examined from 1952 through 1964. Male vocalists dominated music in this sample until the 1960s when more female singers appeared. When males sang about marriage and courtship, they were giving advice or asking for advice. Female vocalists tended to sing about love and romance. When females sang about marriage, they were waiting, longing, and preparing for marriage.

In the second period, consisting of songs from 1960 through 1964, female vocalists sang about marriage, more than in the previous years. When marriage was specifically addressed in lyrics, females sang about it in the context of how to get a man, how to keep him, and how to behave in a relationship. Again, marriage remained a dreamy aspiration and often craved by females. Female vocalists portrayed marriage as an ambition, an event that they hoped for and dreamed of. Female singers and music groups of the early 1960s characterized marriage as an institution to preserve, protect and participate in. There were very few female critics of marriage as a negative institution. In general, from 1952 through the early 1960s, marriage was seen as a positive institution for couples to engage in and music rarely advised listeners to not engage in marriage.

Music remains a cultural tool to assist us in examining aspects of culture. It is therefore not just a form of entertainment. Music and culture work together, influencing, reflecting and commenting on new ideas and patterns in marriage, love and romance. Rock-and-roll music has stood the test of time, remaining as an accessible historical artifact of the beliefs, attitudes, and practices of matrimonial relationships.

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Interpretation and Production of Interpersonal Behavior



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ABSTRACT

The question of how people interpret (decode) and construct (encode) the meaning of social behavior is central to the understanding of social interaction. Early research has suggested that there may be differences in the level of difficulty involved in the processes of encoding and decoding social behavior. These differences are surprising, given that people engage in both processes constantly in everyday life. This research is an initial exploration of this problem. Groups of research participants were asked to either construct social behaviors or to interpret social behaviors. It was hypothesized that the encoding of interpersonal behavior would be more difficult than the decoding of behavior. The results of this study confirmed the hypothesis.

Introduction

In order to understand social interaction we must look at the ways in which social behavior is perceived. Uncovering the process that underlies how people interpret and express common social behaviors is an important part of our understanding the variety in social interaction. There has been little research on the problem of how a person understands the meaning of behavior performed by another (decoding), and how a person generates action in order to communicate a particular idea to another (encoding).

To gain a better understanding of these processes of social interaction, one must first explore the different kinds of meanings that are communicated through interpersonal behavior. Research on the semantic structure of interpersonal behavior has found at least three major dimensions on which social behavior varies; association-dissociation, superordination-subordination, and intimacy-formality (Triandis, 1977, 1994; Adamopoulos, 1984, 1988). These three dimensions appear to remain stable across individuals and cultures. Adamopoulos (1991) developed a model of the emergence of these dimensions of interpersonal behavior that is based upon resource exchange. He assumes that the emphasis in interaction is on the meaning that an action communicates rather than the action itself.

A basic question underlying much of this work concerns the process through which semantic structures lead to the production of interpersonal behavior, and the construal of the meaning of specific behaviors. Osgood (1970) attempted to assign semantic features to interpersonal verbs (decoding) and derive interpersonal verbs from a randomly selected set of semantic features (encoding). He observed that the process of decoding meaning from interpersonal verbs appeared to be less



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difficult than encoding meaning into interpersonal verbs.

In a study by Boyatzis and Satyaprasad (1994) this difference in difficulty in the encoding and decoding processes was identified during an examination of children's ability to encode and decode nonverbal behavior. They found that children were better at decoding than at encoding facial emotions and gestures. They attributed the differences to developmental processes in which the comprehension of action preceded its production.

Seburn (1997) conducted a study in which she looked at the process by which social behaviors are encoded and the process by which meaning is derived from a social behavior. Her conclusions were that social behaviors that involved dominance and affiliation were better understood and behaviors that were submissive and dissociative were hardest to produce and understand. There clearly is some difference in these two processes, though her results were not conclusive.

Differences in the processes of encoding and decoding are surprising given that people engage in both processes constantly in their everyday lives. This study is a replication and extension of Seburn's study with new and more carefully selected stimuli. Surveys were used to obtain information from two groups of participants. One group of participants was asked to construct (encode) behaviors and a second group was asked to interpret (decode) these behaviors. Each participant was also asked to rate how difficult each task was on a 7-point scale. In addition, this study focused on a hypothesis not tested in previous investigations. Specifically, it was predicted that the encoding or construction of interpersonal behavior will be more difficult than the decoding or interpretation of interpersonal behavior.

Method

Participants

Participants consisted of Grand Valley State University students enrolled in introductory psychology classes. The encoding process data were collected from two groups of participants; one group of 193 and a second group of 241 participants. Data for the decoding process were collected from a group of 72 participants.

Procedure

Encoding. Each participant in this phase of the study was asked to construct a social behavior that expresses the meaning of two semantic features from the three psychological dimensions of affiliation, dominance, and intimacy. For example, for the association/superordination combination, participants were asked to construct three behaviors that conveyed friendliness toward and control over, another person at the same time.

The behaviors generated from the encoding task were given to a second group of participants, who judged the relevance of all the behaviors on five 7-point scales representing the dimension of dominance (e.g., strong-weak, powerful-powerless), five scales representing affiliation (e.g., friendly-unfriendly, warm-cold), and five filler scales. Scale values (averaged across raters) for each of the two dimensions were appropriately transformed so that the same semantic features were scored similarly. The values were then summed and assigned to the behaviors generated by the first group of participants.

Decoding. A third group of participants was given a set of 12 social behaviors representing the four feature-set combination (e.g., advise, protect, and teach represented superordination/association), and were asked to rate them on the same set of scales described earlier. Data were treated in the same manner as described above.

Difficulty scales. Participants were asked to rate the difficulty of each task on a 7-point scale (easy-hard). These ratings constituted the main dependent variable. Since this study tested the difficulty hypothesis only, the focus of the investigation is the difficulty judgments.

Results

The mean scale values for the difficulty of task were analyzed in a 2 (task: encoding/decoding) X 2 (affiliation: association/dissociation) X 2 (domination: superordination/subordination) between subjects design. The 2 X 2 X 2 ANOVA yielded a significant main effect for task, $F(1,257) = 50.65, p < .000$. This indicates, as predicted, that encoding ($M = 4.606$) was considered more difficult than decoding ($M = 3.23$). The results showed no other significant effects.

Discussion

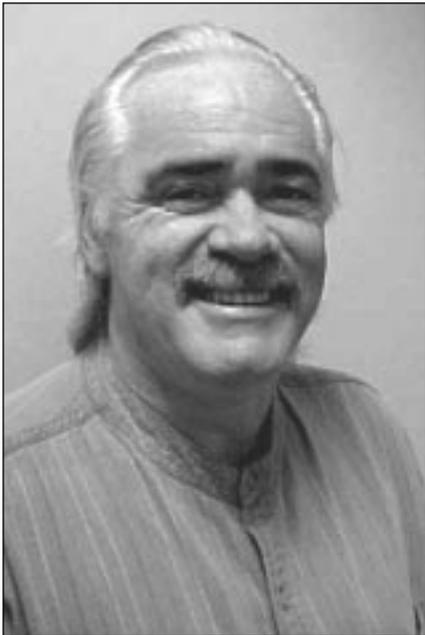
The results show that the encoding or construction of interpersonal behavior is perceived to be more difficult than the decoding or interpretation of interpersonal behavior. This is what we expected to find based upon the finding of previous studies. This study confirms empirically Osgood's (1970) speculation that it is more difficult to produce a behavior in order to communicate an idea than it is to understand an idea conveyed by a particular social action. While this study concludes that there are differences in these processes, it does not explain why these differences may occur.

Further analyses of collected data from this study, relying on the dependent variable of accuracy, may give a better understanding of some of the underlying processes of understanding and producing interpersonal behavior. Future analyses will explore differences in the accuracy of the encoding and decoding processes, and will attempt to identify specific semantic features that may moderate encoding and decoding process.

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Societal Response to Developmental Differences and Adolescent Substance Abuse Treatment Outcomes



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ABSTRACT

Recent findings indicate an increased concern that conventional substance abuse treatment models consistently reflect less than satisfactory outcomes when applied to adolescents. This study investigates developmental differences among adolescents and adults as a possible cause of the disparity. The author conducted interviews with substance abuse professionals, developmental psychologists, adolescents in treatment, and adolescents no less than six months out of treatment. Questions focus on assessment agendas, developmental and motivational differences among adolescents and adults, movement along the addiction continuum, developmental tasks of adolescence, and adolescent receptivity. The results of the interviews among each group are compared and consistencies are noted. The implications of any correlation within the noted consistencies are discussed, as well as the implications for social work practice.

It has been said, “what we, as adults, see in the adolescent culture tells us things we would prefer not to know about ourselves” (Schwartz, 1987, p. 6). As such, that “the special developmental concerns of teenagers are too seldom taken into account in substance abuse research and treatment,” comes as no surprise (Brown University Digest of Addiction Theory and Application, 2000, p. 4). However, the question of why “adolescents are not experiencing the same positive results from treatment that adults do” is an increasing concern within the substance abuse treatment field (Alcohol and Drug Abuse Weekly, 1998, p. 1). Given that the preponderance of adolescent substance abuse treatment programs are based on models designed to accommodate “European adult males” (Johnson, 2002, p.331), this too should come as no surprise. Moreover, it should be noted that according to research conducted by the Center for Substance Abuse Treatment (CSAT, 1995), the term “accommodate” could be understood to mean, to rehabilitate to a previously known level of successful independent functioning. In addition, “success in treatment programs for adults...has been defined as maintenance of abstinence” (CSAT, 1995, p. 3).

While some of these programs may experience adequate results with a small percentage of older adolescents, the majority of alcohol and other drug (AOD) using adolescents do not benefit from these types of programs (Brown, D’Amico, McCarthy, and Tapert, 2001). In addition, and despite the fact that incidence rates are high among European American adolescents, the combined rate of incidence among Hispanics and African Americans is typically greater than 50 percent of all AOD using adolescents, for most substances (Monitoring the Future, 2001). This figure precludes Native Americans and Asians, indicating an



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even greater number of racially and ethnically inappropriate, as well as age inappropriate, treatment modalities being applied with positive outcome expectancies. As a result, adolescents in general have received a negative prognosis – being labeled unresponsive, in denial, not sufficiently motivated, and “treatment – resistant” (Alcoholism and Drug Abuse weekly, 1998, p. 3).

At least one study indicates developmental differences that set adolescents apart from adults may significantly impact the assessment, expectancies for, and adherence to treatment, thereby affecting the adolescent’s response to treatment and ultimately its outcome (Deas, Riggs, Lagenbucher, Goldman, and Brown, 2000). This assumption is based on the belief that adolescent expectancies of AOD consumption change from negative to positive as they make the transition from childhood to early adolescence (Deas et al., 2000). Combined with the concept of the personal fable – a term used to describe a pattern of thinking attributing to adolescents’ delusions that they are unique, very important, and invulnerable (Elkind, 1968) – this shift toward positive expectancies for use represents a barrier specific to adolescence. This paper demonstrates a need to rethink current AOD treatment practices with the intention of developing and implementing assessment tools and treatment strategies that cater to the special developmental differences of adolescents.

Background

Review of literature addressing adolescent AOD abuse treatment outcomes.

The issues of adolescent AOD use and/or abuse are relatively new concerns. This does not mean, however, that they have only come to be a concern within the last decade. To the contrary, in fact, adolescent AOD use and/or abuse have been societal concerns in this country

for several decades. This is evidenced by the fact that “the extent of...(AOD) abuse among adolescents has been well documented,” as have the acute and chronic “physiologic, behavioral, and social consequences of use, abuse, and addiction” (Center for Substance Abuse Treatment (CSAT), 1995, p. 1). However, the opposite is true of the special developmental concerns of AOD abusing adolescents with regard to treatment in the areas of service delivery and service outcomes (CSAT, 1995). In fact, several studies (Ralph and McMenamy, 1996; Melnick, DeLeon, Hawke, Jainchill, and Kressel, 1997; Brown, D’Amico, McCarthy, and Tapert, 2001; Winters, 1998) indicate concern over the lack of research on adolescent AOD treatment outcomes.

Although research is scarce, it is true that positive results have been found. However, researchers maintain that the implications are skewed since they are based on the “effectiveness of adult substance abuse treatment programs for adolescents” (Brown et al., 2001, p. 382). In reality, research results for treatment outcomes in adolescent-friendly AOD treatment programs are predominantly negative. For example, one study of a social skills activity intervention program for court-ordered adolescents “found that while graduation rates and personal adjustment appeared to be increased by the program, there was no reduction of drug abuse” (Ralph and McMenamy, 1996). In addition, the authors cite Query (1985) who, while following up on 78 percent of 134 American Indians and European American adolescents discharged from a four to six week inpatient treatment program, found that 27 percent of the European Americans and 100 percent of the American Indian adolescents still used alcohol. Results such as these are alarming and serve as the impetus for this study.

Review of literature addressing adolescent stages of development.

Understanding why adolescents use AODs is key to understanding why they give the appearance of being resistant to conventional AOD treatment models. In fact, several studies (Peele, 1992; 1998; Sampson and Laub, 1995; Steinberg and Morris, 2001) indicate the term “treatment-resistant” may be inappropriate – suggesting that most adolescents who use AODs typically outgrow the behavior sometime after reaching social maturity. In fact, according to Peele (1992; 1998) this process of ‘aging out’ usually takes place by age 29. As such, adolescent development with regard to motivation for atypical behavior is the focus of this review of the literature addressing adolescent stages of development.

“The empirical study of adolescence barely existed as recently as 25 years ago” (Steinberg and Morris, 2001, p. 83). In fact, according to Steinberg and Morris, popular theories of “normative adolescent development” (e.g. Erikson’s theory of adolescent identity and Piaget’s theory of formal operations) have lost their influence in adolescent research (p. 84). In addition, several studies (Steinberg and Morris, 2001; Henry, Moffitt, Robins, Earls, and Silva, 1993; Rutter, 1989; Farrington, 1995) indicate much of what is understood about normative adolescent development over the last 25 years was learned from studies of atypical adolescent development. Since problems during adolescence and problems of adolescence are not the same thing, and no indisputable means of discriminating between the two has as yet been developed, this approach may result in a radically distorted view of what constitutes normative adolescent development (Steinberg and Morris, 2001).

Interestingly, however, at least one study on adolescent anti-social behavior

borrows from Erikson's theory of adolescent identity in support of an answer to the question, "Why do adolescence-limited delinquents begin delinquency?" (Moffitt, 1993, p.14). To avoid confusion and provide an understanding of Moffitt's response to the above question, those adolescents previously referred to as those who typically experience an 'aging out' process will be referred to as adolescence-limited youths. Those who typically go on to develop persistent AOD problems will be referred to as life-course-persistent youths.

According to Moffitt (1993), adolescence is beset by a socially constructed "maturity gap" characterized by early biological maturation and delayed social maturation (p.14). Moffitt suggests, over the last 100 years, the time at which most adolescents reach social maturity has shifted from a time originally before biological maturity to where it is today – five to ten years after biological maturity. This socially constructed "maturity gap" – a state of being in which social mores prevent adolescents from assuming their ascribed roles as adults – finds adolescents seeking ways to cope with the discomfort and confusion of being trapped in a state of limbo, per se, between childhood and adulthood (Erikson, 1960).

Moffitt (1993) suggests, "social mimicry of the antisocial style of life-course-persistent youths" as the predominant means adopted by adolescence-limited youths as a coping strategy (p.14). Social mimicry, a concept borrowed from ethology, occurs when a species of animal mimics some aspect of another species to gain access to, or acquire, a desired resource enjoyed by the species being mimicked (Moynihan, 1968). According to Moffitt (1993) the same concept applies to adolescence-limited youths who mimic the antisocial behavior, (AOD use/abuse)

of their life-course-persistent peers. These antisocial behaviors are viewed as a highly coveted technique for the acquisition of the desired resource – in this case, "mature status, with its consequent power and privilege" (p. 15). For instance, as young adolescents experience biological maturity there is a concurrent transition into a new social reference group (e.g. high school society) comprised of predominantly older youth. Having had three to four years in which to develop coping strategies – albeit antisocial in nature – these older youth, at least one of which is almost always life-course-persistent antisocial, appear to be minimally affected by the maturity gap. As such, they became the objects of vicarious learning by the adolescence-limited youth (Moffitt, 1993).

An interesting aspect of the concept of social mimicry is that there is no indication for a required exchange of affection between those mimicking and those being mimicked – the participants need not like, or even know each other. All that is required is the presence of one or more life-course-persistents for the behavior to be observed closely enough and long enough to be successfully imitated (Moffitt, 1993). In fact, Cairns, Cairns, Neckerman, Gest, and Gariaepy (1998) indicate high membership turnover rates among delinquent peer groups. The implication here may support the assertion by Peele (1992; 1998) and the other studies mentioned earlier that most adolescents who use AOD's typically outgrow the behavior sometime after reaching social maturity. According to Steinberg and Morris (2001), little is known about how or why individuals experience this process of 'aging out'. However, they indicate as well that a correlation may exist between 'aging out' and "the settling down effects of marriage and full-time work" (p. 3). Furthermore, Moffitt (2001) cites Csikszentmihalyi

and Larson (1984) as having suggested that although adolescents are typically socially, as well as financially, dependent on their "families of origin," they want desperately to "establish intimate bonds with the opposite sex, to accrue material belongings, to make their own decisions, and to be regarded as consequential by adults" (p. 14). However, Moffitt's (1993) application of the concept of social mimicry only offers a plausible explanation for the adolescence-limited youth's involvement in AOD use and the behaviors associated with such use.

But, what about the life-course-persistent youth? It was previously suggested that problems of adolescence and problems during adolescence are not the same thing (Steinberg and Morris, 2001). According to Moffitt (1993), life-course-persistent youth develop a bent for anti-social behavior early in life and that the prognosis for these individuals is "bleak" (p. 679). Furthermore, Garnier and Stein (2002), suggest the propensity to conform to these unconventional values and beliefs is transmitted from parents to their children. In fact, they go on to cite Berg (1985) declaring, "children form their worldview through the value and meanings within the context of the family socializing environment" (2002, p. 46). Children are products of their environment – parents with positive attitudes about AOD use and the behaviors associated with AOD use may instill these attitudes in their children. As such, "development during adolescence cannot be understood without considering development prior to adolescence" (Steinberg and Morris, 2001, p.3), which brings us to the final aspect of development relevant to this study – the moment of transition from one stage, or level of status, to the next.

Social scientists and scholars such as Van Gennep and Mead, agree that nearly every human society either uses, or has

used, certain ceremonial rites to mark significant transitions of an individual's social status (Van Gennep, 1960; Mead, 1928). According to Van Gennep (1960), these rites of passage are intended to acknowledge, or validate, changes in a person's social status. Furthermore, Mead (1928) suggests that all children, regardless of culture or ethnicity, come to a turning point, typically during the teenage years (adolescence), when they start looking beyond themselves in an effort to discover how, and/or where, they fit in their society. In fact, and in agreement with Mead, Steinberg and Morris (2001) refer to adolescence as a period when youth "begin to explore and examine psychological characteristics of the self in order to discover who they really are, and how they fit in the social world in which they live" (p. 5).

With regard to the previously mentioned maturity gap, Mead (1928) makes reference to the delicacy of adolescence – a period when the individual is developmentally excluded from the childhood social group (biological maturity) and unsure about membership in the adult social group (social maturity). Caught in this period of ambiguous transition, the individual is faced with two choices: to join the adult social group (if that really is a choice) or to band together with peers and form their own society (or sub-culture), parallel to, but more often than not, counter to the rest of society. According to Mead, without the proper guidance, or a blueprint per se, the second option often prevails.

It has been said, "The need youth have for some kind of initiation is so strong that it will happen with or without a healthy blueprint" (Teen Rites Projects, 2000, p. 1). It is when youth turn to their peers for guidance when problems associated with adolescence emerge. Some examples given include "use of guns, use of alcohol and drugs,

displays of toughness, hazing, sexually acting out, or any combination of these behaviors" (Teen Rites Projects, 2000, p. 1).

Purpose, Rationale, and Objective

This research will attempt to answer the following questions:

1. Could these developmental concerns, or differences, account for the fact that adolescents are not experiencing the same positive results from treatment that adults do, as well as explain the apparent resistance to treatment exhibited by adolescent users and/or abusers?
2. Could understanding the relationship between these developmental differences and adolescent substance use and/or abuse serve to quell the conceivable overreaction by society to the adolescent's natural progression through the process of lifespan development?

The rationale for this research is two fold. First, if those adolescents who are indeed chemically dependent are to be successfully treated for their dependency, it is imperative to discover why they give the appearance of being treatment-resistant. If the answer(s) lie(s) within the relationship between these developmental differences and current treatment models, this research could prove to be important in the development of more effective adolescent substance abuse treatment models.

Secondly, societal overreaction to a circumstance considered by many to be part of the natural developmental process can be devastating in many ways. Having cited Peele (1992; 1998), Johnson (2002) reports, many people view drug and alcohol consumption as a "rite of passage" – further suggesting its consumption will decrease with age (pp.

3-7). With this in mind, negatively mislabeling adolescents as addicts at a time typically identified as the stage where individuals develop self-concepts can lead to social ostracisation, as well as invoke the concept of the self-fulfilling prophesy – leading to the development of negative self-concepts. Moreover, according to Steinberg and Morris (2001), "adolescents who engage in false self behavior because they devalue their true self suffer from depression and hopelessness; adolescents who engage in false self behavior to please others or just for experimentation do not" (p. 6).

Based on this rationale, it is the objective of this research to discover characteristics of adolescent development that will lead to the advancement and implementation of adolescent friendly substance abuse treatment models. It is further anticipated that AOD researchers and treatment providers would develop a more realistic response to the issues of adolescent AOD use and/or abuse. This is not to say that society's views are unrealistic – simply overstated.

Method

Participants

Participants in this study were selected from four separate groups consisting of substance abuse treatment professionals, developmental psychologists, adolescents still in AOD treatment, and adolescents no less than six months after AOD treatment. Prospective participants from the two professional groups (five from each group, located throughout the West Michigan area) were contacted. They were informed of the nature of the study and asked if they would be interested in participating. There were four affirmative responses from each of the two professional groups and three were selected from each group to participate. Selection was based on credentials, knowledge of, and experience with the adolescent population.

Prospective participants from the two adolescent groups were contacted less directly for reasons of confidentiality. Three AOD treatment programs serving adolescents were contacted and informed of the nature of the study being conducted. These agencies were asked to seek volunteers from their current and former clients. Each of the three agencies was provided with the necessary release of information and consent for interview forms. There were five prospective participants from those individuals still in AOD treatment and only three from those at least six months after AOD treatment. Of the five prospective participants still in treatment, three were randomly selected. As a result the study consisted of 12 participants – three substance abuse treatment professionals, three developmental psychologists, three adolescents still in AOD treatment, and three adolescents at least six months after completing an AOD treatment program.

Instrument

The instruments used consisted of two sets of open-ended questions requiring qualitative responses based on the disease model of addiction with a focus intended to address the concerns expressed in the stated research questions. Those interview questions addressing the stages of developmental tasks of adolescence refer to the following – (a) separation from parents (autonomy), (b) establishment of peer attachments, (c) establishment of sexual identity, (d) formulation of new ideas/ideals about the world they live in, and (e) a blending of the first four to consolidate one's character. Those questions addressing the stages of addiction refer to the four frequently seen stages of adolescent AOD use – (a) experimental use, (b) more regular use, (c) daily preoccupation, and (d) dependency.

To establish a foundation for the interviews based on the disease model of addiction, each of the participants from the professional groups were asked about their views concerning adolescent AOD use from a disease perspective; the adolescent participants, from both groups, were simply asked if they believe they have a disease. Having established a foundation based on the disease model, the respondents from the professional groups were informed of the recent research findings indicating adolescent resistance to conventional AOD treatment programs and asked to express their beliefs for the cause of such findings. In addition, participants from the professional groups were asked to express their views as to whether the concept of "hitting bottom" is a realistic expectation for adolescents who use mind or mood altering substances. With regard to the concept of "aging out," the participants were asked if they believed, as adolescents make the transition to young adulthood and experience new freedoms and responsibilities, their attitudes about drugs changed – and if so, how? The final interview question for the professional groups required much more dialogue than the others, with the focus addressing any correlation between the stages of addiction and the stages, or tasks, of adolescent development.

Of the adolescent participants – each of the respondents, those currently in treatment and those having completed at least one treatment program, were asked if, at any time during treatment, they were told where they were believed to be on the addiction scale. The respondents were then asked where they thought themselves to be on the addiction scale. The next two questions were directed toward expectations, both for treatment and for AOD consumption. Similarly, motivation was the impetus for the next two questions – motivation for use, as well as motivation

to seek treatment. The final question asked of both adolescent groups addressed the impact, if any, of the original assessment at the onset of treatment, and those adolescents having already completed treatment were asked what, if anything, about treatment had the greatest impact on them.

Results

As previously stated, the first question asked of all the participants was to establish a foundation based on the disease model of addiction. Of the six professional participants, five favor the disease model, even with regard to adolescents. However, although they stated their belief in the disease model of addiction, their responses contained at least one disclaimer. For instance, one SA treatment professional stated her belief in the disease model, yet went on to indicate an inclination to struggle with a 16-year old being an addict. In fact, that was typically the concern of the others as well. The participant that did not favor the disease model was from the developmental psychologist's group. It was his contention that AOD use is a cognitive behavioral concern – further stating that AOD use and the behaviors associated with such use are learned behaviors and as such can be unlearned.

As for the adolescent participants, all appeared to have attitudes of indifference, and their responses were brief. When asked if they believed they had a disease, five said "no" and one said "yes." The participant who believed he had a disease was from the group having already completed an AOD treatment program.

Because there are significant contextual differences in the remainder of the interview questions asked of the participants in the professional groups and those asked of the participants in the adolescent groups the remainder of this section will be addressed separately,

beginning with the professional groups and following up with the adolescent groups. This is based strictly on the contextual differences of the interview questions and to avoid confusion.

SA professionals and developmental psychologists

With regard to recent research findings indicating a resistance to AOD treatment by adolescents, all three SA professionals and two developmental psychologists indicated their disagreement with such findings. Although one developmental psychologist did agree that adolescents do appear to be resistant to conventional AOD treatment programs, all six participants agreed that if there was a problem it was in the method of treatment, not the adolescent.

The developmental psychologist who was in agreement with the literature on adolescent AOD treatment outcomes went on to suggest, that most people, if they do not see themselves as a significant abuser tend to initially react with resistance. In addition two of the SA professionals and two developmental psychologists spoke of the tendency for the concept of the personal fable to compound denial, or resistance to treatment. Furthermore, one of the developmental psychologists emphasized the importance of peer opinion and its effect on an individual's compliance with AOD treatment.

With regard to the concept of "hitting bottom," there was a general consensus among the professionals that adolescents do indeed hit bottom. However, exactly what constitutes bottom is not easily discernable and varied from one participant to the next. Again, reference was made to the invincibility factor (personal fable) by 50 percent of the respondents. One SA professional and one developmental psychologist made reference to the adolescent's ability to recognize terrible things happening in their lives, but being unable to, or

simply refusing to, attribute them to their AOD use. Furthermore, all of the respondents emphasized the importance of recognizing, based on developmental differences, that hitting bottom for an adolescent is significantly different than hitting bottom for an adult.

Concerning the process of "aging out," again the general consensus among the professionals is, for most adolescents, positive changes in attitudes concerning AOD use do take place as they mature. Exactly how, or why, is difficult to say. However, one developmental psychologist suggested career choices, religious experience, and association with a spouse or partner as possible motivating factors. In addition, one SA professional went on to say there is really no obvious and clear way of tracking changes in the adolescent's attitude concerning AOD use since they typically move on before making the transition to young adulthood.

In response to the question concerning any correlation between the stages of addiction and the stages, or tasks, of adolescent development the respondents were very nearly in agreement on much of what was discussed. Nearly all the participants began their response with the concept of arrested development – delayed progression through the developmental stages due to AOD use. However, other correlations began to emerge as we talked. For instance, two SA professionals and two developmental psychologists alluded to the powerful influence of peers, especially during the formation of peer attachments. One SA professional and two developmental psychologists also referred to separation from parents – challenging the parents' lifestyle; the parents' authority; and establishing autonomy.

Furthermore, two SA professionals and one developmental psychologist included some discussion of delay of onset of first use. It was suggested by

the three aforementioned professionals that if an individual can make it to age 25 without having experimented with, or developed any significant patterns of AOD use, the probability of ever doing so is reduced to almost zero. This data appears to contradict the literature, in which Peele (1992; 1998) suggests age 29 as the time typically established for the "aging out" process to occur. However, it should be noted that the respondents to this interview question are speaking in regard to delay of onset of first use, whereas Peele (1992; 1998) is referring to those individuals who have already achieved various levels of AOD use. So as not to lose the impact of the participant's response concerning delay of onset, it should also be noted that this might prove to be significant in that it seems to suggest that AOD problems are conditions born of adolescence, which will be discussed further in the next section.

Adolescents

With regard to the adolescent interviews, in response to whether or not they were told at any time during treatment where they were believed to be on the addiction scale, four of the respondents indicated they were told they were addicted (the fourth stage mentioned in the instrument section), but did not agree. Of those four, one stated he later came to agree with the assessment. The other two indicated they were never told, but at the time of the interview saw themselves at the second stage (more regular use). The others, when asked where they saw themselves on the scale (with the exception of the individual who later came to agree with the assessment), indicated they were not on it at all – stating they had no problems. It should be noted that the two who believed themselves to be at the second stage were from the group having already completed treatment and the individual

who later came to agree with his assessment was of the group still in treatment.

In response to the question addressing expectations for treatment the respondents from both groups indicated treatment was simply a means to become educated about the effects of AOD use. In fact, two participants from the group still in treatment and two from the group having completed treatment indicated what they had learned, or had yet to learn, would better equip them in controlling their consumption. The next question then addresses the issue of expectancies for future use. All of the respondents indicate they have every intention to continue using as soon as they are finished with whatever legal circumstances they happen to be involved with. Although all of the participants from both groups state their intentions to continue using, one from each group states he will only use alcohol because it is a legal substance.

With regard to motivation for treatment, the participants from both groups are, or were, in treatment as the result of judicial mandates or at the recommendation of their probation officers. None of the participants voluntarily sought treatment. In response to the inquiry concerning motivation for use all of the participants indicated they did it to fit in – stating everyone was doing it. In fact, one of the individuals from the group still in treatment said it gave him a sense of belonging.

In response to the question addressing any impact that may have been experienced as a result of the original assessment the general consensus among all the participants was one of indifference. In fact, all the participants indicated a lack of concern about what the people doing the assessment thought about them. However, two of the respondents from the group still in

treatment further indicated their lack of concern was based on the assurance of confidentiality, expressing their concern about being treated differently should people find out they were addicts.

Finally, with regard to what, if anything, actually worked or helped those individuals having completed a treatment program, all the participants indicated the didactic aspect of treatment had the greatest impact. The delivery of the instruction took multiple forms as well – videos, lectures, reading material and the sharing of personal stories. In addition, one of the participants also indicated support networks – emphasizing, however, it did not include his friends, since they no longer wanted to be his friends if he was actually going to stop using.

Discussion

In as much as the sample size used in this study is by no means large enough to establish conclusively the significance of developmental differences among adolescents and adults with regard to AOD treatment outcomes, the data presented appears to support the current literature. In addition, a serendipitous aspect of AOD use concerning the delay of onset in reference to an individual's first encounter with AODs is presented as well. Although this aspect of AOD consumption is not supported by the current literature, the significance of this discovery may have a direct impact on the development of alternative AOD treatment models – not just for adolescents, but also for AOD users in general.

The research indicates a high likelihood that if an individual can make it to age 25 without experimenting with, or developing any significant patterns of AOD use, the chances are almost zero that he/she ever will. This is substantiated by 50 percent of the professional participants interviewed for this study. However, in order to fully

understand its implication, this concept must be put together from its single component parts. Therefore, the full formation of this concept cannot appear at the beginning of this discussion; rather, it must stand at its conclusion.

The current literature clearly indicates that the majority of conventional AOD treatment programs were designed, or conceived of, many years before the empirical study of adolescence even began. As such, the inclusion of the special developmental concerns of adolescence could not have been incorporated in their design. Furthermore, the research clearly indicates, based on the agreement of all the professional participants, if there was a problem of receptivity to conventional AOD treatment methods by adolescents, the problem was to be found in the method of treatment, not the adolescent. This can only serve to confirm the inappropriateness of applying treatment models designed to accommodate “European adult males” (Johnson, 2002) for the treatment of adolescent AOD users.

Since it has also been established that the goal of conventional AOD treatment programs is to rehabilitate European adult males to a previously known level of independent functioning, it is now necessary to address this concern with regard to adolescent AOD users. The question, “How do you rehabilitate someone to a previously known level of independent functioning if they have never known one?” cannot be avoided and must be answered. Perhaps the answer lies in the removal of the prefix in the term rehabilitate, with regard to the objective of adolescent AOD treatment. To habilitate an individual to a level of independent functioning seems to be a more realistic treatment objective for an individual who has never known any level of independent functioning. Of course, to do this would call for a complete rethinking of conventional AOD treatment models.

Before returning to the concept concerning the delay of onset introduced at the beginning of this discussion it is necessary to address one final issue – the issue of the adolescence-limited youth and the life-course-persistent youth. According to the literature, there is an “aging out” process that occurs around the age of 29 (Peele, 1992; 1998) for the adolescence-limited youth. Unfortunately it is the life-course-persistent youth who carries his/her AOD problems beyond the “aging out” period. Since it is the life-course-persistent youths who serve as the models for the adolescence-limited youths it stands to reason that these individuals should be the focus for the development and implementation of alternative adolescent AOD treatment models.

Having presented the component parts necessary for the understanding of the concept concerning the delay of onset of first AOD use, it can now be adequately addressed. If, according to the research, an individual can make it to age 25 without having experimented with, or developed any significant patterns of AOD use, the probability of ever doing so are reduced to almost zero, then it would appear that problems of AOD use are conditions born of adolescence. If problems of AOD use are conditions born of adolescence then the question arises, “Has anyone in treatment, regardless of age, ever experienced a previously known level of independent functioning?” It is this writer’s opinion that any response to this question can only be negative, and the goal of rehabilitation to a previously known level of independent functioning is nothing more than what CSAT refers to as “maintenance of abstinence” (1995, p.3). This may be fine for the adolescence-limited youth who is going to experience the “aging out” process.

What about the life-course-persistent youth whose problems originated in

childhood and became manifest during adolescence? There is a saying in Alcoholics Anonymous and it carries over into Narcotics Anonymous as well – if you sober up a horse thief, all you have is a sober horse thief. AOD treatment programs for adolescents need a much deeper and comprehensive definition of success than the mere maintenance of abstinence. The issues of adolescence-limited youths and life-course-persistent youths will be addressed more completely in the discussion of the second research question.

Now with regard to the second research question, since, according to Steinberg and Morris (2001), much of what we understand about normative adolescent development was learned through the study of atypical development perhaps this discussion should employ the same approach. Over the years, we as a society have decided to take the power and privilege typically characteristic of social maturity and distribute it in portions over an unspecified time known as adolescence. The result of this is the socially constructed maturity gap mentioned earlier in this article. There is, or are, no clear-cut point(s) of entry into adulthood in our society. However, there are symbols, determined through the attitudes and beliefs of the society in question, representative of the various levels of social status. Unfortunately, in our society we have allowed the use of beverage alcohol, certain drugs, and certain behaviors associated with their use to become symbols of social maturity.

Faced with the ensuing frustration, as well as the perceived insignificance inherent in this period of extreme role confusion, adolescence-limited antisocial youth learn to mimic the behaviors (AOD use) of their life-course-persistent peers. These life-course-persistent youths, through the expression of their

antisocial behaviors, appear not to experience the discomfort of the socially constructed maturity gap. Although the concept of life-course-persistence is significant to the objective of this study, to explain it in detail constitutes a study in and of itself since the understanding of life-course-persistent behavior must begin long before the onset of adolescence.

Getting back to the concept of social mimicry, adolescents desperately seeking to demonstrate their maturity are engaging in these activities and discovering these symbols of maturity sooth the discomfort associated with existing in the maturity gap created by their parents and the society in which they hope to define themselves. It is through testing these boundaries and challenging social prohibitions that young people learn to develop internal control over their behavior. As they participate in this concept of social mimicry, they begin to experience the illusion of adult status and will typically continue to mimic the antisocial styles of their life-course-persistent peers until such time as the settling-down effects of certain conditions, such as marriage and full-time work, symbolize societies acknowledgement of them as consequential adults.

Based on this interpretation of the research data it would seem that for most adolescents their involvement in AOD use is likely just a part of their natural progression through the stages of life-span development. This writer suggests that it is the life-course-persistent youth, and the research seems to support this as well, whose AOD use is maladaptive, or problematic in that their motivation for use far exceeds an expression of social maturity. Therefore, it would behoove us to focus our attention on the development of AOD treatment models designed to cater to the needs of these life-course-persistent youth. The problem, it seems, is how do we distinguish between life-course-persistent youth and adolescence-

limited youth. The answer lies in the need for further research.

There are, however, certain steps that can be taken in the interim. You will recall that the research indicates the didactic aspect of treatment was the most beneficial. Since the development of life-course-persistent antisocial behavior, such as AOD use, occurs prior to adolescence this writer suggests that perhaps treatment should begin in the primary years of school. It should become a mandatory part of the primary school curriculum – a required class, the same as math, English, and science. It should be taught by trained professionals, teaching such topics as the possible dangers associated with AOD use, alternative socialization skills, peer norms adjustments, and perhaps the establishment of more positive icons representative of the various levels of social maturity. Furthermore, this writer suggests the development of AOD treatment policies requiring parental involvement with mandatory sanctions for non-compliance.

Implications for Social Work Practice

When considering the purpose of social work in conjunction with the multiple roles assumed by its practitioners, these findings have important implications for social work practice at the micro, mezzo, and macro levels. The social worker's ability to function at multiple levels and areas of ecological systems, a model that views individuals and groups in their capacities to function and interact with, as well as within, the various complex systems that constitute society, requires their involvement as agents of change in the process of education and reform expressed in this study. In fact, it was the "increased influence of the 'ecological perspective on human development' (Bronfenbrenner, 1979) during the late 1980's "that gave rise to a heightened interest in adolescent development – particularly atypical (or antisocial)

development (Steinberg and Morris, 2001, p. 83).

Facilitating change in attitudes, processes, procedures, and policies are integral factors necessary to bring about the restructuring of AOD treatment models and prevention programs suggested in this study. To develop an awareness of the potential risks of AOD use, as well as the development of alternative socialization practices designed to accommodate diverse populations, these actions must be undertaken as part of well-thought-out plans developed with the assistance of, and on behalf of, AOD users themselves. To do this, however, we must first educate ourselves about the dynamics of AOD use from an adolescent perspective.

The social worker must then provide widespread education about the possible changes in the acute and chronic effects of AOD use when approached from an adolescent perspective. This can be done in many ways, for example, publishing a newsletter, being a guest speaker at classes or seminars, designing a website, or starting discussion groups to educate the community. In addition, the social worker must work with individuals at the various levels (micro, mezzo, and macro) to aid in the development of more positive icons representative of having achieved adult status.

At the mezzo level the social worker must work with others to develop ways in which to distinguish between adolescence-limited youth and life-course-persistent youth. This is perhaps the most important undertaking set forth in this study, since it is the life-course-persistent youth that go on to develop lasting AOD problems, as well as become models for social mimicry by the adolescence-limited youth. The ability to make this distinction would then lead to yet another task incumbent on the social worker's eclectic knowledge base – the development and

implementation of a mandatory class in the primary school curriculum. The scare tactics employed by such programs as D.A.R.E. merely give the illusion of success in the overall reduction of AOD use in adolescence (Levinthal, 2002). As such, a major effort on the part of social workers, educators, psychologists, researchers and policy makers is called for.

Finally, for any or all of the proposed changes to take place, research must be a paramount factor in all of the undertakings set forth in this study. Research that purposefully targets and supports the development and implementation of the practices, procedures, and policies necessary to achieve success in the elimination or significant reduction of AOD use among the adolescent population. Furthermore, the implementation of well-designed research studies to monitor the progress and effectiveness of our efforts for the purpose of informing practice and policy is called for as well.

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Drowning the Constraints of Freedom: Schopenhauer's *Freedom of the Will* in Kate Chopin's *The Awakening*



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ABSTRACT

*Although the overarching metaphor of **The Awakening** is the sea, it cannot be said that Edna's victory lies in her death by drowning; instead, it lies in what she has made of her life. The novel tracks the evolution of her will. The will is the element of human nature that German philosopher Arthur Schopenhauer calls the "thing-in-itself," that which strives successfully against those constraints imposed by society. Edna desires to break through the chains of convention and constraint as she moves toward new freedoms—physical, intellectual, and moral. Edna's victory lies within her ungrounded will, which in turn, wills itself to be free. My essay demonstrates that at the end of the novel it is Edna's body that succumbs to exhaustion and eventual death, but not her will. Her will has steadily moved toward indomitable triumph.*

Most 19th-century reviewers and some 20th-century critics have considered *The Awakening* to be a novel about female sexuality and adultery. Even though Chopin firmly illustrates Edna Pontellier's efforts to defy society's constraints, especially those that impair moral, intellectual, and physical freedom, she has not created a protagonist who is explicitly seeking the illicit. In fact, she is quite contemporary in her use of sexuality as a means of searching for ultimate realities. Through Edna, Chopin portrays a 19th-century world that resembles uncannily the world striving toward freedom at the end of the 20th-century. Furthermore, Edna is an upper-class revolutionary who transcends all societal norms in order to align her internal world that is free with her external world that keeps her in bondage. Like Chopin, Edna is a thinker who strives for the ungrounded "thing in itself," a phrase used by the 19th-century philosopher Arthur Schopenhauer to define the concept of will which is independent of appearances, space, causality, and time in his 1841 essay *Freedom of the Will*.

Earlier studies of the novel demonstrate the influence of the philosopher's work. Gregg Camfield's 1995 essay "Kate Chopin-hauer: Or, Can Metaphysics Be Feminized?" finds the author to have started with but moved beyond Schopenhauer's Idealistic "aesthetic of renunciation"(3) and into an ambivalent mode borne of her mutual attraction to the things of this world and the consolations and transcendent possibilities of art (5). Penelope LeFew's "Edna Pontellier's Art and Will: The Aesthetics of Schopenhauer in Kate Chopin's *The Awakening*" (1992) also demonstrates Schopenhauer's influence to be at work in the novel, but LeFew focuses on Edna's artistic efforts, on the spell that Mademoiselle Reisz's music casts upon her, and on the inferences to be drawn from Edna's drowning. All of



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these illuminate for LeFevre Schopenhauer's definition of the will and "everything in the physical world is mere representation of this will" (76). And for Schopenhauer the will insists *ad infinitum* that each individual continue "to strive, search, and desire" (76). Chopin's fiction definitely shows the influence of the philosopher's best-known work, *The World as Will and Representation*. In fact, Chopin refers to Schopenhauer explicitly in her early novel, *At Fault*. More than with her other protagonists, however, Chopin defines Edna as a character with a will of her own:

I never dreamed of Mrs. Pontellier making such a mess of things and working out her own damnation as she did. If I had had the slightest intimation of such a thing I would have excluded her from the company. But when I found out what she was up to, the play was half over and it was then too late. (Toth 224)

According to Schopenhauer every person has a distinct nature with intellect always secondary to the character because it is the will that gives each person distinction. Also character and motive cause actions to exist within a human being's consciousness, and that means that there is not freedom of the will because all actions are determined. Therefore, striving of the will for Schopenhauer is meaningless suffering, and Edna illustrates this suffering through each constraint from which she frees herself. Each time, however, she finds that her will is once again moving into conflict with yet another constraint. Thus, Edna's freedom is won in increments, but it is also not static as it moves toward incessantly arising new constraints. Consequently, Edna observes that determinism acts as a cause and effect in the chain of grounded human events as she often reflects upon her own

past in relation to her present situation. If acts and choices are determined, then free will is an illusion, according to Schopenhauer. In order, then, for Edna to have free will, she must break the chains that are determined, especially societal chains. This would relieve Edna of determinism, but in order to obtain the "thing in itself," she must be free of any grounds that determine something else. In other words, Edna must be free to act and choose on a ground that is determined by nothing at all. According to Schopenhauer, it does not mean that determinism should create a sense in Edna "that the truth of determinism does not make us any less inclined to feel responsible for our actions - a fact which he rightly says still requires an explanation" (Janaway 93). Consequently, those explanations do surface, but first Edna must use as evidence the consciousness of her internal self and the consciousness of the external world to attain freedom. However, truth of determinism will not free us from a sense of responsibility because in effect it creates a feeling that we cannot hide from it. Therefore, the need arises for Edna not only to understand herself, but also the world.

In the beginning of the novel, Edna is forced to face in the presence of the other Grand Isle vacationers the fact that she cannot swim, but eventually she frees herself from this constraint by willing herself to learn how to swim and beginning to swim in the sea every day. This is an indication that Edna is no longer physically hindered and therefore is able to exercise a force relative to her will. Edna achieves physical freedom, which, according to Schopenhauer, must be absent of material barriers in the exercise of physical force (*Freedom* 3). But Edna's new freedom is met with other constraints, and as Leonce Pontellier's wife, she is expected to adhere to those constraints.

It is during this time that Edna entertains and encourages a relationship

with a younger man, Robert Lebrun. Robert provides kindness, support, and affection for Edna. They also have shared interests in literature and conversation. The Creoles of Grand Isle are open and often share books and discuss the contents with one another. Edna finds this "too open" because she is unfamiliar with such an intellectual openness and especially since one book that went around was quite risqué, according to Edna's Kentucky Presbyterian sensibilities. Yet she manages to transcend this uneasiness and eventually enjoy conversation and books quite openly with other people on the island. According to Gunther Zoller in his introduction to Schopenhauer's *Freedom of the Will*, "intellectual freedom is the absence of intellectual impairment in some cognitive force or incognition" (xxi). Edna's prior intellectual impairment was that she was not aware of the world outside of Presbyterian society. However, due to Catholic/Creole openness on such subjects as affection, history, business, pregnancy, and childbirth, Edna eventually moves away from cognitive constraints into intellectual freedom. If religion is an intellectual constraint, the Grand Isle Catholic/Creole society was a society historically known to have refused the construction of a Catholic church, forcing it to be built on Cheniere Caminada. Furthermore, the people of Grand Isle represent an exotic mixture of ethnicities. An 1888 article by Eugene Smalley for *St. Nicholas Magazine* provides this description of area residents: "three kinds—white, colored, and black. All of mixed blood are called colored. These three sorts of inhabitants associate together in the most friendly way, except at parties" (Evans 58). In contrast to New Orleans, society life on Grand Isle is quite lax.

Edna befriends Adele Ratignolle. Adele is the mother-woman to whom Leonce refers when he speaks of other women whom Edna should pattern herself after

as mother and wife. Edna “gazes at her fair companion as she might look upon a faultless Madonna” (11). Edna shares events of her childhood with Adele and speaks of the relationship she had with her father who was once a Presbyterian minister, a colonel, and a plantation owner. She relates to Adele how she felt about those experiences by implying that she had a need to run from religion, the military, and slavery into an open field much like the sea. It is this repeated feeling of wanting to move away from the known and toward something unknown that has brought forth a need for Edna to transcend once again societal constraints. Through rational deliberation Edna becomes conscious of her father’s oppression. She realizes that her father’s harshness had caused her to marry a Creole Catholic whom she did not love. This becomes a motive for freedom when Edna wills the “thing-in-itself.” To Schopenhauer, every character’s action has a motive, and every action is direct whereas the workings of the conscience is indirect. Edna realizes through indirect action of the conscience that she has married Leonce for “show.” This type of show, which Schopenhauer discusses in his 1851 essay “On Women,” is the same type of show that he sees in the aristocratic woman, and thus Schopenhauer dismisses such women as Philistine (Schopenhauer 127). The motive behind her marriage is the cause that becomes the effect that produces unloved children who are always fighting with other children. It also produces a loveless marriage. Leonce is never available, and when he is available, he is critical and demanding. In social appearances he produces a kiss, chocolates and nuts, hugs for his children, money, and jewelry; however, behind closed doors the relationship with his wife consists of an 11 o’clock-in-the-evening berating of her care of their two young boys after he has been at a club for supper and recreational gambling and

had no thought of spending that time with his sons. And it is that evening that Edna first perceives a will of her own: “her will had blazed up, stubborn and resistant. She could not at that moment have done other than denied or resisted” (Chopin 31). Leonce is of the opinion that she is not like all the other mother-women on Grand Isle. Even though it is Edna who is criticized for attempting to transcend “show,” it is her husband who promotes “show.” And it is this sort of show that Chopin abhorred, referring in her diary to people with such priorities as “that class which we know as Philistines” (Toth, *Private Papers* 127). Both Schopenhauer and Chopin use the word *Philistine* to indicate class-conscious notions of showiness which both found offensive.

Leonce is the external model of the “old world,” and he is the 19th-century man unable to hear the “thing in itself” as he drowns in a sea of decorum. During the week he is in New Orleans working on the stock exchange; on the weekends he recreates on Grand Isle, where his wife and sons are located for the entire summer. At one time, Leonce’s family owned plantations, but his success now relies upon the business district. He owns a beautiful home in New Orleans and has money to spare. On the other hand, Robert is not rich, yet he is financially responsible for his mother and brother. His financial circumstances are unlike those of other men of Grand Isle because he has to work for his living as an independent entrepreneur whose interests are global, not national. Unlike Leonce, it is Robert who listens attentively to Edna even though the Grand Isle atmosphere is at most times busy and noisy and makes focusing difficult. It is Robert whom Edna moves toward as she moves away from Leonce. Although Robert travels from Louisiana to Mexico in search of entrepreneurial opportunities, he writes to her with letters addressed to the musician

Mademoiselle Reisz. But he does not declare his love. Consequently, during his absence Edna forms an adulterous relationship with a known womanizer, Alcee Arobin, who provides the lustful element of her awakening for which the critics often condemn Edna as a married woman. Even at the opening of the novel, however, Edna confesses to past infatuations with a series of “unavailable” men prior to her marriage to Leonce and concludes that she has never had romantic feelings toward Leonce himself. Alcee arouses in her a feeling of being sexually attractive, and a relationship ensues that Chopin portrays as natural, animalistic, and undeniably human.

Edna is a human being who receives little empathetic understanding. An exception is Adele, who touches her hand. Edna acknowledges being unfamiliar with such affection. Edna accepts Adele’s touch as well as the affection she gives and receives from her children. Later, Leonce in conversation with Dr. Mandelet informs the doctor that he and Edna are having marital problems. His confession that they meet every morning for breakfast hints at their lack of physical intimacy but does not betray his unfeeling tendencies toward her, which are demonstrated in several ways, such as his lack of concern for Edna when she first learns how to swim. Edna states, “I thought I should have perished out there alone,” and in response to Edna’s near-death experience, Leonce replies, “You were not so very far, my dear; I was watching you” (Chopin 28). But the nature of Leonce’s real feeling is ambiguous. Edna provides an insight that the marriage has long lacked sensuality:

She heard him moving about the room; every sound indicating impatience and irritation. Another time she would have gone in at his request. She would, thought habit, have yielded to his desire; not with any sense of sub-

mission or obedience to his compelling wishes, but unthinkingly as we walk, move, sit, stand, go through the daily treadmill of the life which has been portioned out to us. (Chopin 30).

In hindsight, Edna never provides a sense of having received affection from her father because she describes him as a patriarchal authority type. The colonel demonstrates this authority when he notices that Edna does what she pleases and does not follow either Leonce's wishes or his own that she attend her sister Janet's wedding. Father and son-in-law begin to have no authority over Edna, and the colonel berates Leonce for having been too lenient with Edna: "Authority, coercion are what is needed. Put your foot down good and hard; the only way to manage a wife. Take my word for it!" (Chopin 68). But Leonce in turn thinks to himself that "the colonel was perhaps unaware that he had coerced his own wife into her grave" (Chopin 68). The fact that the colonel may have caused his wife's death by denying her even a modicum of free will is an insight into the personal knowledge that Leonce has of Edna's childhood, especially the relationship between Edna's father and mother. With this in mind, it is possible to understand Edna's motives and actions toward Alcee. Edna's relationship with Alcee begins after Robert leaves Grand Isle for Mexico.

Soon afterward, Edna and her children return to New Orleans. In New Orleans Edna is subjected to the societal constraints of meeting people every Tuesday who wish to pay a formal call. These kinds of visits are socially expected and planned; therefore, it is imperative that each female member of Creole society keep that day open for the wives and sisters of business associates. Edna, however, is no longer interested in acting as Leonce's helpmeet. She has begun to believe that each constraint she resists establishes a new freedom and thus now

considers her time to be *her* time, not belonging to anyone else. Furthermore, this gives her the opportunity she needs to paint, to begin to take herself seriously as an artist.

Because they are back in the city, Leonce is now home every morning and evening, and consequently, his demand for her time has to be met. He makes it clear to Edna that Tuesdays belong to other people, specifically the female satellites of his professional contacts. This leaves Edna bound to a loveless duty that causes her to shun all visitors out of rebellion and to neglect all societal and household responsibilities. This enrages Leonce, but Edna's will is no longer bound by the physical or the intellectual. She does, however, see herself as still morally bound to Leonce and the children even though the love she acknowledges to be internal belongs to Robert. According to Schopenhauer, moral freedom is the highest freedom because it is absent of motivational hindrances, and the choice of love over show expresses Edna's will to detach herself from determinism.

The overarching metaphor of the novel is the sea. The sea itself illustrates such a ground that is free from any other ground. Even though exhaustion begins to overtake Edna, she has moved out of a grounded position into a still oppressive grounded society, and in swimming out to sea, she contemplates yet again those societal constraints that she has broken through:

She looked into the distance and the old terror flamed up for an instant, then sank again. Edna heard her father's voice and her sister Margaret's. She heard the barking of an old dog that was chained to a sycamore tree. The spurs of the cavalry officer clanged as he walked across the porch. There was a hum of bees, and the musky odor of pinks filled the air (Chopin 109).

The chained dog, the cavalry officer, the minister-father, the obedient sister, and the production of children are all chains of society—the father chained to religion, Margaret chained to her father, the cavalry officer chained to the military, the dog chained to the sycamore tree, and all of them chained to mankind. In the words of Schopenhauer:

Supposing that a given human being's character remained unalterable on the one hand, and on the other, the circumstances whose influence we had to undergo were necessarily determined thoroughly and down to the smallest detail by external causes, which always enter with strict necessity and whose chain, consisting entirely of links just as necessary, runs back to infinity—supposing all of this, could the past course of such a human being's life turn out, even in the small particular, in any event or scene, differently from the way in which it did?—No is the consistent and correct answer (*Freedom* 53).

Through Edna, Chopin expresses the trap that acting upon our own free will sets for us: "There was her husband's reproach looking at her from the external things around her which he had provided for her external existence. There was Robert's reproach making itself felt by a quicker, fiercer, more overpowering love, which had awakened within her toward him. Above all, there was understanding" (Chopin 80). This newfound insight links directly to the closing moments of the novel. As Edna swims into the Gulf and away from the constraints that had chained her, it is, in fact, the sea of free will that Edna embraces ad infinitum.

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Soybean Glutaredoxin Gene Responds to Aluminum Toxicity in Soil II



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ABSTRACT

Oxidizing agents are a normal product of aerobic metabolism and may also be encountered from environmental sources. Aluminum is one proposed source of environmental oxidative stress in plants, and is a major component of soils and an inhibitor of plant growth. Plant cells have evolved universal mechanisms to mediate oxidative stress including the enzyme glutaredoxin, which utilizes a disulfide oxidation-reduction mechanism to detoxify free radicals. A preliminary study suggested that the soybean glutaredoxin gene is expressed preferentially in roots and stems of soybean seedlings in response to toxic levels of Al in soils. To expand our understanding of our initial results, we examined the roots, stems, and leaves of soybean seedlings grown in soil treated with 0, 20, and 50 mM AlCl₃ and for periods of 10, 20, or 30 days. We also attempted to more precisely quantitate the differential soybean glutaredoxin response within the plant tissues by adding an 18s rRNA internal control to the RT-PCR amplification reaction. The preliminary results proved inconclusive as 18s gene transcript amplification was inconsistent and glutaredoxin gene amplification was seen only in roots and leaves at 20 days. In the future the RT-PCR reaction needs to be optimized and the experiments repeated, as the results of this preliminary study did not negate the validity of our assumptions.

Introduction

Oxidizing agents are a normal product of aerobic metabolism and may also be encountered from environmental sources. Oxidizing agents within living cells can add or remove electrons from macromolecules and may result in conditions such as growth inhibition, cancer, neural degenerative diseases, or other abnormalities (Grant, 2001; Lozano et al., 1994; Halliwell, 1999). One proposed source of environmental oxidative stress in plants, aluminum, is a major component of soils and an inhibitor of plant growth. While Al is insoluble in a neutral or weakly acidic pH, Al ions become increasingly available and potentially phytotoxic as soil becomes acidic. Al initially confers its toxic effects by binding phospholipids and/or retarding the movement of cations and increasing the movement of anions to the membrane (Kochian, 1995). Once incorporated into cells, positively charged Al ions are attracted to the negatively charged phosphates of DNA in the nucleus. Al subsequently binds the DNA, inhibiting cell division and root elongation (Silva et al., 2001). Recent work suggests that Al may also function as a source of oxidative stress to organisms. Richards et al. (1998) confirmed that some genes in *Arabidopsis thaliana* respond similarly to both oxidative and Al stress. Ezaki et al. (2000) proposed that common mechanisms mediate both Al toxicity and oxidative stress.

Organisms have evolved diverse mechanisms to respond to toxic levels of Al. Exclusion mechanisms are one common way that plants avoid Al toxicity. Plants exude organic acids such as citrate, oxalate, or malate in order to keep Al from entering the roots (Kochian, 1995). Plants that do accumulate large concentrations of Al without detrimental effects may use oxalic acid to complex the Al ions (Ma et al., 1997). Plant cells additionally use

universal disulfide oxidation-reduction mechanisms to mediate oxidative stress. In these systems, electrons are transferred from reduced cysteines to toxic oxidants, rendering them incapable of participating in damaging reactions (Lozano et al., 1994). Glutaredoxin is one such protective protein reducing agent that actively scavenges oxygen free radicals in animals, plants, and bacteria (Minakuchi et al., 1994; Halliwell, 1999; Grant, 2001).

Glutaredoxins have now been described from a variety of plants and plant tissues: in seed aleurone (Minakuchi, et al., 1994) and genomic DNA (Sha et al., 1997) from rice; in sieve-tube exudates from castor bean (Szederkenyi et al., 1997; in chloroplasts and mitochondria from spinach leaves (Morell et al., 1995); in *Arabidopsis thaliana* (Tresmousaygue et al., 1997) and *Aleurites fordii* (tung) (Tang et al., 1998); and in fruit of tomato (Chevalier et al., 1999). More recently, Rouhier et al. (2002) described the isolation of glutaredoxin from poplar sieve tube exudates. In 2000, we isolated and initially characterized a novel glutaredoxin cDNA from soybean (Thomas-Bostic and Stephenson, 2001). The soybean glutaredoxin cDNA sequence shares highly conserved characteristics with glutaredoxin genes in plants and other species. Indeed, the soybean glutaredoxin sequence contains the identical Cys-Pro-Phe-Cys active site found in tomato and *Arabidopsis* (Chevalier et al., 1999; Tresmousaygue et al., 1997). From a socioeconomic perspective identification of the glutaredoxin gene in soybean is particularly significant because soybean is a major crop worldwide and soybean consumption has been steadily rising due to the health benefits of soy-based foods (Henkel, 2000; Harvilic, 1999; Scheraga, 1997).

Because Al is a major source of soil toxicity in agricultural soils worldwide,

we investigated growth responses of soybean seedlings to Al in the soil and response of the soybean glutaredoxin gene to Al (Thomas-Bostic and Stephenson, 2001). Initial indications from research in yeast suggested that glutaredoxin is expressed differentially in response to protein oxidative stress (Grant, 2001). We speculated that soybean might have systems to detoxify Al ions that had bypassed the plant's initial avoidance mechanisms and hypothesized that the soybean glutaredoxin gene would be expressed differentially in roots and stems when soybean was grown in soils containing toxic levels of Al, with transcript levels increasing in direct proportion to the levels of Al in the soil. To test this hypothesis we examined the roots, stems, and leaves of soybean seedlings grown in soil treated with 0, 20, and 50 mM AlCl₃. We did observe a differential gene response, particularly in the roots and stems (Thomas-Bostic and Stephenson, 2001). Glutaredoxin gene expression in these initial experiments increased within the roots and stems when compared with the control, which is consistent with what is known about Al toxicity. The results are consistent with our hypothesis and suggest that glutaredoxin may be involved in neutralizing toxic Al compounds within the vascular tissue of soybean plants, thus limiting the potential for damage that could be done to the whole plant by toxic compounds that escape controls at the root level (Szederkenyi et al., 1997). We also observed that glutaredoxin gene expression in soybean leaves was constitutively high regardless of level of soil Al, suggesting a multi-functional role for glutaredoxin within the soybean plant (Thomas-Bostic and Stephenson, 2001).

Based on these preliminary results that indicated that soybean glutaredoxin is expressed preferentially in roots and stems of soybean seedlings in response

to toxic levels of Al in soils (Thomas-Bostic and Stephenson, 2001), we expanded on our original experiment to include mature soybean plants as well as seedlings. In addition, we attempted to more precisely quantitate the differential soybean glutaredoxin response within the roots, leaves, and stems by adding an internal control to the RT-PCR amplification reaction.

Materials and Methods

Plant materials and growth conditions

Experimental plants were *Glycine max* [L] Merr. Cv Wye, a non-nodulating cultivar of soybean. Protocol for soybean growth was as established in our original study for 10-day-old seedlings (Thomas-Bostic and Stephenson, 2001). Al was added once to the soil as the chloride salt (AlCl₃), prepared at 0, 20, and 50 mM concentrations. 200 mL of AlCl₃ solutions were added to 4-inch pots intended for collection at 10 days. 500 mL of AlCl₃ solutions were added to 1-gallon pots intended for plant collection at 20 and 30 days. The Al solutions were added to each pot at planting and allowed to fully absorb into the soil. Plants were grown for 10, 20, or 30 days and the roots, stems, and primary leaves were collected separately. Height was measured from soil to primary leaf node, and primary leaf mass (fresh weight) was measured. Tissues were excised with a razor, then immediately flash-frozen in liquid nitrogen and stored at -70°C.

Extraction of Total RNA and Reverse Transcription of poly A RNA

Total RNA was extracted from frozen tissue using GITC (guanidine isothiocyanate) to denature the RNA and inactivate RNases. The components for the extraction were from the RNeasy Plant Mini Kit (Qiagen Inc., Valencia, CA), and the detailed protocol followed the manufacturer's instructions. Modifications to the detailed protocol were as described in our initial

characterization of soybean glutaredoxin (Thomas-Bostic and Stephenson, 2001). Poly A RNA was reverse transcribed as described in our original protocol (Thomas-Bostic and Stephenson, 2001). Ambion (Austin, TX) supplied the Random Decamer primers used at a final concentration of 1 μ M.

Polymerase Chain Reaction (PCR)

3 μ L of the reverse transcription reaction provided the template for PCR. For the soybean 18s rRNA template we used the sequence identified by Grabeau (1985) available from GenBank as Accession #M16859. The 18s rRNA sequence was co-amplified in the PCR rxn as an internal control (Ambion, Inc., no date). 18s primers were synthesized by Bio-Synthesis Inc. (Lewisville, TX). Oligonucleotide primer design was facilitated by PCR PRIMER3 (Whitehead Institute, MIT) design software available on Biology Workbench (www.workbench.sdsc.edu). The sequence of the 18s forward primer was 5' (TATCTTGACGGTGACGACG) 3' and the reverse primer 5' (CGATTCCAACCTTCATGTTCC) 3'. The soybean glutaredoxin cDNA primers were as described in our original protocol (Thomas-Bostic and Stephenson, 2001). The cDNA templates derived from reverse transcription were amplified using HotStarTaq DNA Polymerase (Qiagen) according to manufacturer's instructions. Each 50 μ L reaction contained 3 μ L of the RT reaction, 0.2 pmol of each soybean 18s primer and 0.7 pmol of each soybean glutaredoxin primer. Sigma (St. Louis, MO) supplied the dNTPs. Amplification was carried out per our original protocol (Thomas-Bostic and Stephenson, 2001).

Gel Analysis of PCR-amplified DNA

Visualization of the PCR-amplified DNA was accomplished using protocols described in our original experiment (Thomas-Bostic and Stephenson, 2001).

Ethidium bromide-stained gels were photographed with a Kodak DC290 digital camera and the images scanned to a computer and manipulated using Kodak 1D LE 3.5 software.

Results

Macroscopic growth of soybean plants grown in varying levels of soil Al

Plants respond to toxic levels of metals in soils at both the macroscopic and molecular levels (Kochian, 1995). To examine the affect of Al in soil on the vegetative growth of soybean we grew soybean seedlings for 10, 20, or 30 days in 0, 20, and 50 mM AlCl₃ (Fig. 1a). Even at the highest concentration of AlCl₃ soybean plants exhibited a 96% germination rate (data not shown). In soybean plants grown at varying concentrations of soil Al plant height (Fig 1a; Table 1a), leaf mass (Fig 2; Table 1b) and root length (data not shown) showed an inverse correlation with the level of applied AlCl₃. Control plants growing in 0 mM AlCl₃ reached the greatest heights (Fig 1a; Table 1a), had broader leaves (Fig 2; Table 1b), and longer roots (data not shown) than plants grown in 20 or 50 mM AlCl₃ in both seedlings and mature soybean.

Glutaredoxin and 18s rRNA gene expression in soybean seedlings grown in varying levels of soil Al

Examination of soybean plants grown in soils with varying levels of Al demonstrated that soybean could grow in high levels of Al (Fig. 1-2), although growth was reduced as Al concentration increased (Fig 1-2; Table 1). We hypothesized that the glutaredoxin oxidation-reduction system could be involved in mediation of soybean tolerance to Al. In order to examine this question, we measured the accumulation of the glutaredoxin transcript in the roots, stems, and leaves of seedlings growing in soils containing 0, 20, 50 mM AlCl₃ and compared them to the

accumulated transcript levels of our internal 18s rRNA control. After 10, 20, and 30 days, we harvested the tissues, isolated total RNA, reverse transcribed the mRNA, and co-amplified the resulting glutaredoxin cDNA sequence using PCR together with the 18s rRNA control sequence. Gel analysis indicated that glutaredoxin cDNA was amplified only in 20-day old root and leaf tissues of plants grown at the highest level of soil Al (Fig. 3b); no 18s rRNA was amplified in specific samples at 10d (Fig. 3a) and 20 d (Fig. 3b).

Discussion

Glutaredoxin, the principle component of the glutaredoxin-glutathione disulfide oxidation-reduction system, is one mechanism living cells use to mediate oxidative stress and is an enzyme of particular interest. Glutaredoxin may regulate enzymatic activities, integrate oxidation-reduction reactions, and inactivate toxic oxidant molecules within cells (Minakuchi et al., 1994; Halliwell, 1999). Al is one element that can be toxic to plants growing in acidic soil and is extremely common in soils worldwide (Matsumoto, 2000; Kochian, 1995). Studies have suggested that some of this toxicity may be a function of oxidative stress (Richards et al., 1998; Ezaki et al., 2000). In earlier experiments we isolated a novel glutaredoxin cDNA from soybean and investigated how soybean seedlings respond to differing levels of Al in the soil. We observed that our soybean glutaredoxin cDNA exhibits characteristics that are consistent with previously described plant glutaredoxins, such as the glutaredoxin found in seed aleurone of rice, vascular tissue of the castor bean, spinach leaves, and young tomato fruit (Thomas-Bostic and Stephenson, 2001). Based on a literature review and our initial experimental results, we hypothesized that the soybean glutaredoxin gene would be expressed differentially in the organs of

the soybean when compared with an internal control.

We examined the roots, stems, and leaves of soybean seedlings grown in soil treated with 0, 20, and 50 mM AlCl₃ and for periods of 10, 20, or 30 days. We attempted to determine whether our original results (Thomas-Bostic and Stephenson, 2001) were truly a differential gene response by co-amplifying the soybean glutaredoxin cDNA with an 18s rRNA control. Use of an internal standard offers a frame of reference and potential for more accurate quantitation of RNA levels (Ambion Inc., no date). The nucleotide sequence of the soybean mitochondrial 18s ribosomal RNA gene shows evidence for a slow rate of divergence in the plant mitochondrial genome (Grabeau, 1985) and is the source for the 18s sequence amplified. The 18s gene transcript expression was consistent in roots and leaves at 10 d roots and variable in roots and leaves at 20 d. Glutaredoxin gene expression was limited in roots and leaves at 20 d and nonexistent in other plant tissues and time points. Results of the glutaredoxin expression analysis are thus inconclusive.

A better understanding of soybean glutaredoxin will emerge as research explores the boundaries of this gene and its protein products. The immediate needs for future work are optimization of the RT-PCR reaction and repetition of the experiments, as the results during this trial did not negate the validity of our assumptions, and this investigation should eventually prove fruitful. During the preliminary trials described here, the abundant 18s template may have utilized available nucleotides, leaving few available for glutaredoxin sequence amplification. Therefore, in the future nucleotides available for DNA synthesis should be increased and/or the concentration of the 18s template should be reduced. RNA gel analysis will

be a useful tool to determine whether RNA is available for reverse transcription and total RNA extractions should be repeated from tissues that did not yield RNA during this preliminary experiment. Ultimately, the parameters of soybean glutaredoxin expression should be expanded to include other forms of Al and other potential sources of oxidative stress. Furthermore, future researchers will need to verify that expression of soybean glutaredoxin gene leads to an active glutaredoxin enzyme.

It is conceivable that an enhanced plant glutaredoxin gene working in conjugation with other genes activated by oxidative stress may be engineered into soybean or other plants, and developed into viable mechanisms for phytoremediation, where plants are used to stabilize, collect, or chemically change contaminants to non-hazardous forms (Weatherford, et al., 1997; Rouhier, et al., 2001). Eventually, glutaredoxin gene expression could be enhanced to enable plants to bioaccumulate heavy metals, leading to the possibility that toxic lands could be reclaimed, especially lands that had been ruined by pollutants (Weatherford et al., 1997).

Table 1. Response of vegetative growth in soybean to varying levels of soil Al. Plants were grown soils containing 0, 20, and 50 mM AlCl₃ for 10, 20, or 30 days. After the allotted time period plants were harvested and we measured plant height at the primary leaf node and primary leaf mass. We observed an inverse relationship between vegetative plant growth and Al concentration. Control plants showed the most robust growth with greatest plant height (a) and the broadest leaves (b). Plants grown in 50 mM AlCl₃ experienced the most growth repression.

a.

Plant Height at Primary Leaf Node			
Age	A1 Concentration	Plant Height (cm)	SD of Height (± cm)
10 D	0 mM AlCl ₃	21.3	3.2
	20 mM AlCl ₃	18.2	2.4
	50 mM AlCl ₃	16.0	1.7
20 D	0 mM AlCl ₃	37.8	5.9
	20 mM AlCl ₃	32.8	3.7
	50 mM AlCl ₃	29.8	4.8
30 D	0 mM AlCl ₃	54.3	7.1
	20 mM AlCl ₃	46.5	5.3
	50 mM AlCl ₃	39.6	6.1

b.

Primary Leaf Mass			
Age	A1 Concentration	Leaf mass (g)	SD of Mass (± g)
10 D	0 mM AlCl ₃	0.126	0.012
	20 mM AlCl ₃	0.120	0.018
	50 mM AlCl ₃	0.096	0.004
20 D	0 mM AlCl ₃	198	18
	20 mM AlCl ₃	191	15
	50 mM AlCl ₃	171	12
30 D	0 mM AlCl ₃	258	28
	20 mM AlCl ₃	249	23
	50 mM AlCl ₃	234	21

Figure 1. Growth response of soybean plants grown in differing levels of soil aluminum. Experimental plants were *Glycine max* [L] Merr. Cv Wye, a non-nodulating cultivar of soybean (Fig 1a). Soybean plants were grown for 10, 20, or 30 days in soil containing 0, 20, or 50 mM AlCl_3 . Soybean responded differentially to varying levels to Al in soil. Seedlings had 96% germination rate regardless of the Al concentration in the soil. Height was measured from soil to the primary leaf node. Control plants were the tallest while plants grown in soils containing 50 mM AlCl_3 showed the smallest mean heights (Fig 1b).

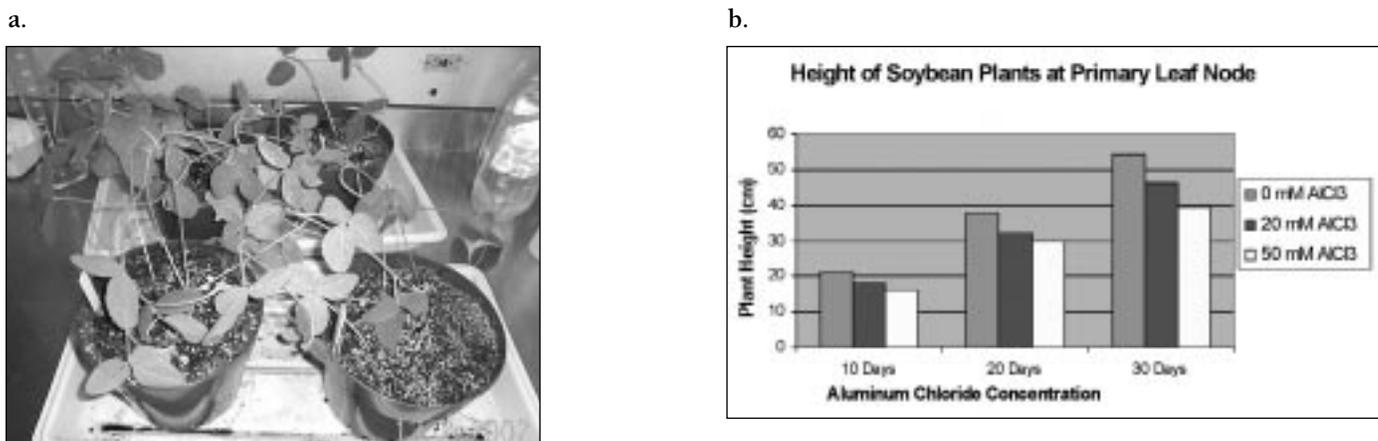
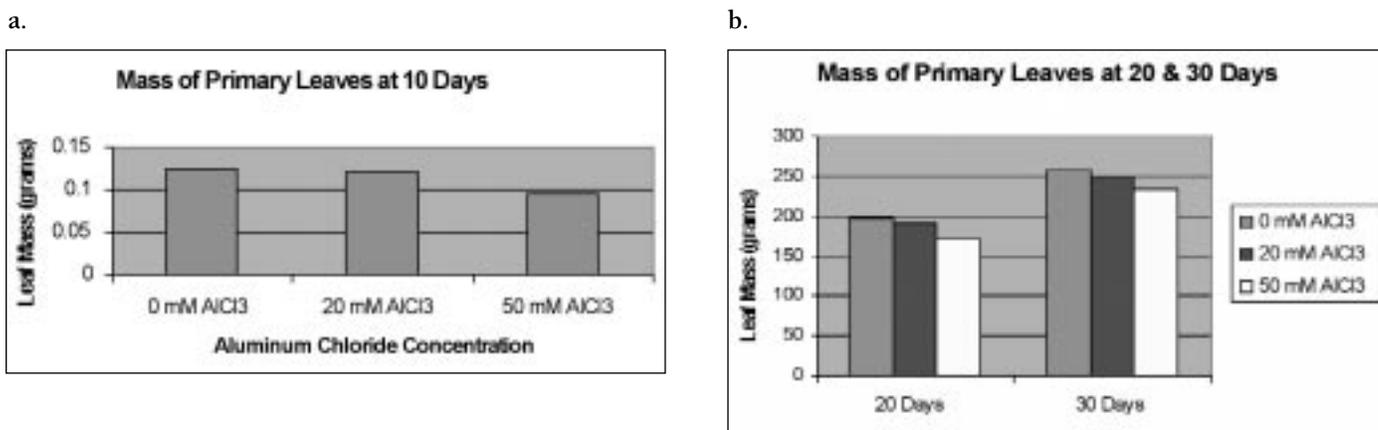
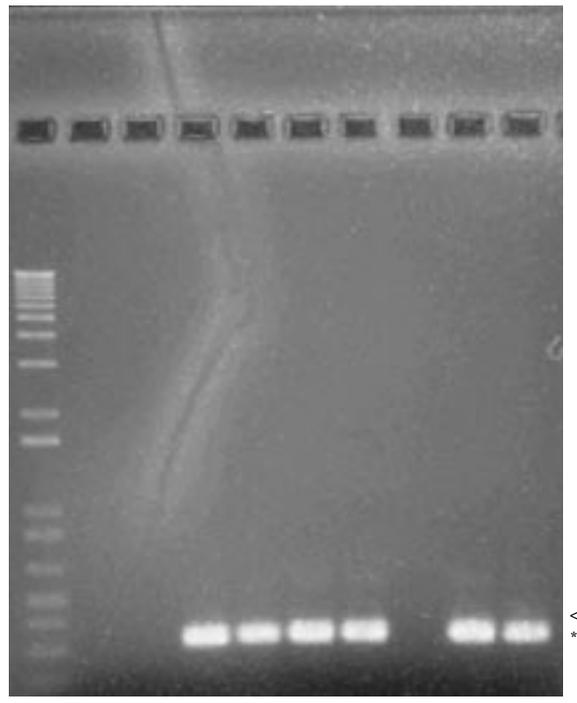


Figure 2. Mass of soybean primary leaves grown at differing levels of soil aluminum. Soybean plants were grown for 10 (Fig 2a), or for 20 or 30 (Fig 2b) days in soil containing 0, 20, or 50 mM AlCl_3 . Fresh weight mass was recorded for primary leaves. We observed an inverse relationship between primary leaf mass and Al level. The primary leaves of the control plants showed the highest mean mass while those from plants grown in 50 mM AlCl_3 showed the lowest mean mass.



Roots			Stems			Leaves			
0	20	50	0	20	50	0	20	50	
1	2	3	4	5	6	7	8	9	10 Days

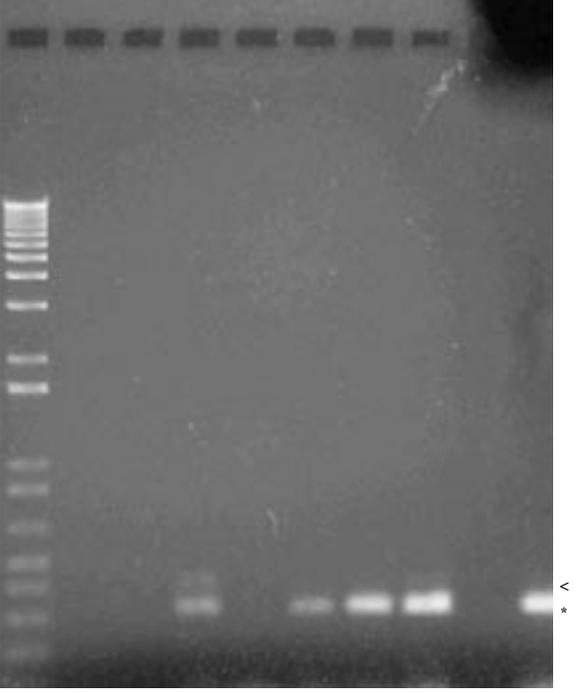


500 NT→
400 NT→
300 NT→

a.

Figure 3. Soybean glutaredoxin gene response to varying levels of aluminum toxicity in soil. Soybean plants were grown for 10 (Fig 3a) or 20 (Fig 3b) days in soils containing 0, 20, or 50 mM Al. Roots, stems, and leaves were harvested and total RNA extracted. Soybean glutaredoxin transcript and 18s rRNA were co-amplified using RT-PCR. The PCR products were separated by gel electrophoresis, stained with ethidium bromide and photographed. The first lane shows a size ladder in nucleotides (nt). Lanes 1, 4, and 7 indicate plants grown in 0 mM Al; lanes 2, 5, and 8 indicate plants grown in 20 mM Al; lanes 3, 6, and 9 indicate plants grown in 50mM Al. The * indicates the predicted mobility of the amplified 18s rRNA (338 nt). The < indicates the predicted mobility of the amplified glutaredoxin cDNA (425 nt).

1	2	3	4	5	6	7	8	9	20 Days
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500 NT→
400 NT→
300 NT→

b.

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Sexual Harassment: Do Perceptions Differ Across Race and Sex?



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ABSTRACT

Sexual harassment is a prevalent problem in the business world today. It interferes with effective organizational performance and has significant physical and psychological consequences for the direct victim (e.g., Gutek & Koss, 1993, Hanisch, 1996) and any indirect victims (e.g., Glomb, Richman, Hulin, Drasgow, Schneider, & Fitzgerald, 1997). The past two decades have seen a proliferation of research on the frequency of sexual harassment (Cohen & Gutek, 1985; Fitzgerald & Hesson-McInnis, 1989; Gutek & Koss, 1993), as well as how individuals perceive the harasser, the victim, and the situation (Corr & Jackson, 2001; Henry & Meltzof, 1998; Perry, Schmidtke, & Kulik, 1998). Unfortunately, few studies have examined the effects of racial or ethnic differences on perceptions of sexual harassment. In addition, most research has used the stereotypical female victim/male harasser scenario and ignored males as potential victims. The present study addressed these gaps in the literature by analyzing perceptions of harassment utilizing both male and female victims from different racial classifications.

Perceptions of Sexual Harassment

Sexual harassment involves any behavior that the recipient finds offensive and, in turn, unreasonably interferes with the recipient's work performance or creates an intimidating work environment. There have been many attempts to define the vague and complex construct of sexual harassment (e.g., Corr & Jackson, 2001; Shelton & Chavous, 1999; Waldo, Berdahl, & Fitzgerald, 1998). The present study will define sexual harassment in a manner similar to Corr and Jackson (2001) by identifying two continuous dimensions: 1) unwanted sexual attention and 2) gender harassment. Although other researchers (e.g., Fitzgerald, Gelfand, & Drasgow, 1995; Waldo, Berdahl, & Fitzgerald, 1998) have identified additional dimensions of sexual harassment (i.e., sexual coercion, lewd comments, enforcing gender roles), this study contends that these behaviors fit within the primary dimensions of unwanted sexual attention (sexual coercion, request for sexual favors, and sexual touching) and gender harassment (lewd comments and enforcing gender roles). Thus, the present study defines sexual harassment as two continua of behaviors, one that constitutes unwanted sexual attention and the other that constitutes gender harassment.

In past research, the most commonly addressed independent variables included the respondent's sex (e.g., Corr & Jackson, 2001; Perry, Schmidtke, & Kulik, 1998; Rosen & Martin, 1998), the power status of the harasser (e.g., Corr & Jackson, 2001; Sheets & Braver, 1999; Shelton & Chavous, 1999), and the observer's response to the harassment (e.g. Shelton & Chavous, 1999). Because race is rarely addressed in studies regarding respondent's perceptions of sexual harassment and research is still inconclusive regarding perceptual differences of sexual harassment based on sex, this study

treats them as independent variables while also manipulating the sex of the harasser.

Effects of Race on Perceptions of Harassment

A study by Rosen and Martin (1998), although it focused on negative attitudes toward females among male soldiers in the military, did address racial differences in sexual harassment perceptions. This study included 1,060 male soldiers and 305 female soldiers. They examined male tolerance of sexual harassment by analyzing three predictor variables: hostility toward women, negative masculinity, and acceptance of women as equals. Hostility towards women was measured with a scale developed by Check (1985). Negative masculinity was measured with the Extended Personal Attributes Questionnaire (EPAQ; Spence, Helmreich, & Holohan, 1979). Acceptance of women was measured with a six-item scale that resulted from an earlier study on the integration of males and females in combat support groups (Rosen, Durand, Bliese, Halverson, Rothberg, & Harrison, 1996).

The results of Rosen and Martin's (1998) study indicated that ethnicity or racial classification affects a person's level of tolerance for sexually harassing behavior. They found that black male and female soldiers in the U.S. Army exhibited lower levels of tolerance to sexual harassment than did white male and female soldiers. In addition, white female soldiers were more tolerant of sexual harassment than were black female soldiers. Hispanic and other ethnic female soldiers were neither more nor less tolerant of sexual harassment when compared with white and black female soldiers. Rosen and Martin (1998) speculated that black male and female soldiers exhibited lower levels of tolerance to sexual harassment because they are members of a minority group

and therefore may empathize with someone who is vulnerable to discrimination.

In a study done by Shelton and Chavous (1999), 46 black females and 89 white females completed two separate self-report measures, a scenario questionnaire and the Sexual Harassment Attitude Scale (SHAS; Mazer & Percival, 1989). The scenario questionnaire was in third person form and depicted a scene in an elevator. The target of the harassment was a black female and the harasser was either a black male or a white male. In addition, the harasser was identified as a coworker or a supervisor. The harassment was characterized as sexual glances and nonverbal sexual gestures.

The results of the study indicated that black and white females tend to perceive sexual harassment as more "appropriate" if the harasser is a black male in comparison to a white male. In addition, both black and white women saw this behavior as more appropriate from a coworker than from a supervisor. However, a three-way interaction indicated that both black and white women rated supervisor harassment as less tolerable than co-worker harassment when the harasser was black. For the white harasser however, white women showed the same pattern but black women saw both supervisor and co-worker harassment as equally intolerable.

Taken together, the two studies listed above are inconclusive with respect to the effects of racial differences in harassment perceptions. In addition, studies that have analyzed other aspects of sexual harassment, such as racial differences in the amount of exposure to sexual harassment (Piotrkowski, 1998; Wyatt & Riederle, 1995) and racial differences in responses to sexual harassment (Gruber & Bjorn, 1986; Wyatt & Riederle, 1995) have also yielded inconsistent results.

Males as Victims

Sexual harassment is not the stereotypical female victim/male harasser arrangement it was once thought to be (Dubois, Knapp, Faley, & Kustis, 1998). Same sex harassment, such as males being the victims of harassment by another male, occurs particularly in jobs in which the majority of workers are male. Males are most often harassed by more powerful males in organizations such as the military in order to force them to conform to unofficial masculine roles within the organization (Waldo, Berdahl, & Fitzgerald, 1998).

Waldo, Berdahl, and Fitzgerald (1998) examined the frequency of sexual harassment among males and the degree to which males found such experiences to be negative in a psychological sense. This study divided sexual harassment into three major dimensions: 1) gender harassment (lewd comments, enforcement of gender roles, and negative gender-related remarks), 2) unwanted sexual attention, and 3) sexual coercion. The measure used was the Sexual Harassment of Men scale, which is a revised form of the Sexual Experience Questionnaire (Fitzgerald, Gelfand, & Drasgow, 1995) where all items apply to the harassment of males.

Results showed that the sex of the harasser of a male was generally identified as male. Further, enforcement of male gender roles was considered the most upsetting form of sexual harassment. These findings suggest that male same sex sexual harassment is more common than researchers have assumed. In addition, males are more likely to be harassed on the basis of (a) actual or perceived sexual orientation and/or (b) gender role that is considered inconsistent with the male's biological sex (Waldo, Berdahl, & Fitzgerald, 1998). This form of harassment can create higher degrees of trauma, both psychological and job related, than female victim/male harasser incidents. A

suggested reason for this is that males find sexual harassment to be a challenge to their masculinity (DuBois, Knapp, Faley, & Kustis, 1998).

DuBois, Knapp, Faley, and Kustis (1998) also examined same sex sexual harassment. The sample consisted of active-duty military personnel; 5,312 females, and 1,357 males. The survey used in the study listed nine specific types of sexual harassment and requested the respondent to indicate their experience with any of these in the last twelve months, the sex of the harasser, and the duration. The nine categories were: 1) sexual attention in the form of whistles or hoots; 2) sexual teasing or jokes; 3) nonverbal sexual gestures or behavior; 4) materials or calls of a sexual nature; 5) pressure for dates; 6) sexual touching, grabbing, or brushing against; 7) pressure to participate in sexually oriented activities; 8) pressure for sexual favors; and 9) actual or attempted rape or assault.

The results of this study indicate that only 1% of females reported being harassed by females and 35% of males reported being harassed by males. Most of the harassment reported by male respondents was in the form of gender harassment (rape, sexually explicit jokes, and sexual teasing). However, males reported that overall they were not as offended by the harassment as females have reported.

Opposite vs. Same Gender Harassment

Katz, Hannon, and Whitten (1996) examined the perception of sexual harassment across the respondent's sex, the four combinations of sex in sexual harassment (i.e. males harassing females, females harassing males, and same sex harassment), and power differentials between the harasser and the victim. Results showed that male and female respondents rated the harassment at similar levels of low tolerance when the

harasser was identified as male. However, when the harasser was identified as a female, female respondents continued to rate the harassment as intolerable while male respondents rated the harassment as more tolerable.

LaRocca and Kromrey (1999) examined differences in the level of tolerance for both male and female respondents perceptions of sexual harassment by manipulating the gender of the harasser, the attractiveness/unattractiveness of the harasser, and the attractiveness/unattractiveness of the victim. Interestingly, a three-way interaction was found between respondent sex, harasser sex, and the harasser's attractiveness. Female respondents perceived an attractive female harasser as more harassing than an unattractive female harasser. Male respondents perceived an attractive male harasser as more harassing than an unattractive male harasser. However, female respondents perceived an attractive male harasser as more tolerable than an unattractive male harasser and male respondents perceived an attractive female harasser as more tolerable than an unattractive female harasser. Overall, female respondents rated the harassment as less tolerable regardless of the harasser's sex while male respondents rated harassment instigated by a female as more tolerable when compared to harassment instigated by a male.

Limitations of Previous Studies

To accurately assess the role of race and sex in harassment perceptions, we must study all possible combinations of race and sex. The studies reviewed above have generally focused on some, but not all of these combinations. For example, Shelton and Chavous (1999) only studied female respondents. Rosen and Martin (1998) focused their analysis on

male respondents and differences between ethnic groups were not addressed explicitly. In Waldo, Berdahl, and Fitzgerald (1998), no female respondents were used and the emphasis was on male-male harassment. The studies by LaRocca and Kromrey (1999) and Katz et al. (1996) compared same and opposite sex harassment perceptions for both males and females but did not address racial differences. By examining various combinations of race and sex in a single study, the present investigation will further our understanding of the effects of these variables.

The types of measures used in sexual harassment research presents an additional concern in formulating an accurate assessment of perceptions. The most commonly used measurement of sexual harassment is the questionnaire (e.g., Rosen & Martin, 1998) and the scenario vignette (e.g., Shelton & Chavous, 1999). Scenario presentations are normally written from a third-person perspective, which forces the respondent into an observer role. The respondents do not directly assess how they would feel if they were the recipients of the harassment. The present research contends that a first-person scenario is the most effective in eliciting true emotional reactions from the participants. In sum, the use of all combinations of race and sex combined with a first-person scenario provides a more accurate picture of the role that race and sex play in harassment perceptions.

Present Study

The focus of this experiment was to investigate potential differences in the level of tolerance based on respondent's sex and racial classification using a first-person sexual harassment scenario. In addition, the present study sought to determine if the harasser's sex makes a significant difference to the respondent

when they are cast as the victim of a perceived sexually harassing situation. Both the respondent's sex and the respondent's race were employed as independent variables. In addition, the harasser's sex was manipulated within the questionnaire. The primary dependent variable was tolerance of sexual harassment (measured by an eight-item scale). Attitudes toward sexual harassment were also measured using the nineteen-item Sexual Harassment Attitude Scale (Mazer & Percival, 1989).

A study done by Rosen and Martin (1998) showed that black male and female soldiers were less tolerant of sexual harassment than white male and female soldiers were. On the other hand, Shelton and Chavous (1999) found that black females exhibited higher tolerance of sexual harassment than white females but only when the harasser was a black male. The overall findings suggest that black and white females differ in their ratings of whether or not the harasser's behavior is sexual harassment. Since these findings suggest that Blacks and Whites differ in their tolerance levels, the present study predicted a main effect of respondent race. Specifically, there will be a higher tolerance of sexual harassment among white participants than among black participants.

Males on average have more organizational, physical, and informal power than do females (DuBois et al., 1998; Waldo et al., 1998). For this reason, a male harasser may be considered more threatening than a female harasser. It has also been suggested that males may perceive unwanted sexual attention from a female harasser as trivial or even benign (Waldo et al., 1998). Based on this assessment, the present study predicted a main effect for sex of the harasser such that tolerance will be higher for a female harasser than it will be for a male harasser.

In the study by DuBois et al. (1998), only one percent of the female victims reported harassment by female harassers as compared to 35 percent of male victims who reported being harassed by male harassers. Although this percentage is small, females who were harassed by females reported that the experience negatively affected their view of their own sex. In addition, the work of Waldo et al. (1998) found that males perceived harassment in all its forms as only "slightly upsetting", with the exception of same sex harassment. Because previous research has not explicitly examined tolerance level for same sex harassment, the present research hypothesized a main effect for respondent sex. Specifically, male respondents will be more tolerant of sexual harassment than female respondents.

Finally, this study hypothesized an interaction between respondent sex and harasser sex. Specifically, male participants will perceive harassment instigated by a female as less offensive than harassment instigated by a male. Female participants will perceive sexual harassment at higher levels of intolerance regardless of the harasser's sex. Given the inconsistent results of previous studies, no additional interactions were hypothesized.

Method

Participants

The sample consisted of 28 white males, 46 white females, two black males, seven black females, four Hispanic males, three Hispanic females, one Asian male, one Asian female, one multiracial female, and one Native-American female from a mid-sized undergraduate university located in the Midwest. Subjects were chosen based on if they were male or female, their racial category, and had to be at least 18 years old or over. In regards to their age, the subjects were required to be of legal

adult age in order to give their consent to participate. To check for this, the participants were asked to indicate their age, sex, and racial classification before they began the study.

Materials

The scenario created for this study depicted a situation, in the first-person perspective, that placed the respondent in a potentially harassing predicament. The harasser's sex was manipulated with the two values being male and female. All other information within the scenario remained constant (See Appendix).

The scale following the scenario consisted of eight Likert-scaled items. Response choices for each item had seven selections ranging from "Strongly Agree" through "Neutral" to "Strongly Disagree." The Likert scale was used to assess the participant's perception of the sexual harassment in the scenario. Participants were asked to circle the choice that most directly represented their agreement with each item.

The second measurement utilized in this study was the 19-item Sexual Harassment Attitudes Scale (SHAS) developed by Mazer and Percival (1989). In addition to the 19 items, the following item, "I have been sexually harassed", was added to assess whether or not experience of sexual harassment affected the respondent's perceptions. The 20 items were measured according to a seven-point Likert scale from "Strongly Agree" through "Neutral" to "Strongly Disagree." This scale assisted in identifying respondents' attitudes towards, and understanding of, sexual harassment. A pilot study was conducted to refine each measurement.

Procedure

The participants were asked to fill out two brief surveys for a psychology research project. Before the participants were given the two surveys, each was

asked to fill out an informed consent to take part in the study. The students read a scenario and subsequently completed an eight-item Likert scale following the scenario. The participants received no more information than what was presented in the scenario. They also responded to the Sexual Harassment Attitudes Scale (SHAS). Upon completing both surveys, participants were thanked and debriefed about the purpose of the study.

The research method was a 2 x 2 x 2 factorial-design experiment. The dependent variables were the respondent's tolerance of the sexual harassment in the scenario (as measured by the eight items following the scenario) and their general attitudes toward sexual harassment (SHAS). The three independent variables were the respondent's sex (male/female), the respondent's racial classification (Black/White), and the harasser's sex (male/female). Harasser sex was manipulated with half of the questionnaires using a male harasser and the other half using a female harasser (See Appendix). The respondents were randomly assigned to one of the two scenarios.

The major procedural control was that the scenario, with the exception of the sex of the harasser, was held constant. That is, the formal relationship between the harasser and the victim, the issue of formal and informal power, the physical contact of the harasser, and the derogatory remark of "sweetie" by the harasser was the same in each scenario. In addition, the directions, response choices, and the ordering and wording of the response choices were all held constant.

Results

Of the 94 participants sampled in this study, 74 were white, nine were black, seven were Hispanic, two were Asian, one was multiracial, and one was Native

American. Based on the unequal distribution of race, this study was not able to make reasonable comparisons on perceptions of sexual harassment across respondent race. However, the distribution of respondent sex (males = 35, females = 59) and harasser sex (male = 49, female = 45) provides sufficient power to conduct a 2 (subject sex) x 2 (harasser sex) analysis of variance (ANOVA) on the sex variables. Therefore, the data was collapsed across race and 2 x 2 ANOVAS were run on each dependent measure.

The internal consistency for each measure was exhibited by the coefficient alphas. Coefficient alphas for the scenario ($\alpha = .90$) and the SHAS ($\alpha = .79$) were sufficient to estimate sexual harassment perceptions and also justify the use of total scores on both measures.

The analysis of the scenario questionnaire resulted in one main effect. The main effect for harasser sex showed that participants were less tolerant of sexual harassment instigated by a female ($x = 4.1$) than harassment instigated by a male ($x = 3.83$, $p = .009 < .05$). Respondent race and respondent sex showed no significant effects.

The analysis of the SHAS questionnaire resulted in one main effect. The main effect for respondent sex showed that female participants ($x = 4.49$) were more sensitive to sexual harassment issues than male participants ($x = 3.74$, $p = .000 < .05$). The predicted interaction of respondent sex and harasser sex was not significant. Respondent race showed no significant effects. The majority of the respondents indicated that they had not been sexually harassed. Because of this, no comparisons were made to determine if life experience made a difference in perceptions.

Discussion

The main effect for harasser sex, namely a female harasser seen as less tolerable

than a male harasser, was surprising, especially since previous research indicates that a male harasser is generally considered more intolerable (i.e. LaRocca & Kromrey, 1999). We assume the reason why a female harasser may be considered more offensive is that a female should know better since, in instances of sexual harassment, females themselves make up the majority of the victims. It seems that this study's sample believed that it would be more offensive that a female would resort to sexually harassing behavior when placed in a power position. This may be related to the double-standard view of businessmen and businesswomen as discussed by Lemme (2002). Businessmen are seen as confident, sophisticated, and "exercises authority diligently." However, businesswomen are seen as stuck up, power hungry, and having "been around." This discrepancy in how businessmen and businesswomen are viewed may effect how the participants perceived both male and female harassers.

Another possible explanation refers back to the problem of labeling particular behaviors as sexual harassment (Stockdale & Vaux, 1993, Marin & Guadagno, 1999). This is especially true with milder forms of unwanted sexual attention and gender harassment (e.g., Ellis, Barak, & Pinto, 1991). A male harasser may be viewed as less offensive because many participants may not have even labeled the harasser's behavior as sexual harassment.

The main effect for respondent sex showed that female respondents tend to have less tolerance for and knowledge about sexual harassment and issues of male/female relationships. This is consistent with the findings by Ford and Donis (1996) who also used the SHAS. In addition, many other studies found that females were more likely to perceive

more subtle behaviors as sexual harassment than males were (Fitzgerald & Ormerod, 1991, Kenig & Ryan, 1986). For example, in the study by Kenig and Ryan (1986), males were more likely to place the blame of the harassment on the female victim. Male participants generally concluded that the female contributed to the harassment by provoking the harasser or by not effectively dealing with the “normal” sexual behavior of males. It can be assumed that the present study’s female participants are more aware of the potential behaviors that can lead to sexual harassment. One of the reasons as to why females may have more awareness is that they tend to lack the formal power in organizations (Cleveland & Kerst, 1993). They are also more susceptible to harassing situations than males are (Barak, Pitterman, & Yitzhaki, 1995, Fain & Anderson, 1987).

Limitations and Future Research

There are some limitations to the present study. Because the majority of the respondents were 19 years of age, there was not a favorable distribution of age. There is an assumption that the respondents have little life or job experience outside of summer employment. In addition, the sample size was limited in that the minimum of 120 participants was not attained. Unfortunately, of the 94 participants only nine were black, making it unreasonable to make any comparisons across racial classification.

It is important for future research to determine if female harassers are truly perceived as less tolerable than male harassers. In addition, what effect does a first-person scenario have on perceptions of sexual harassment versus a scenario that places the participant in the observer role? Perhaps the perceptions of the participant change when the hypothetical incident is directed at them instead of a co-worker. When observing

a co-worker being sexually harassed, the participant may be making internal attributions of the victim, in a sense blaming the victim for actually instigating the harasser’s behavior. When the hypothetical incident is directed at the participant, the participant may place the internal attributions on the harasser and external attributions on their reactions, making the situation more offensive.

In order to determine if there are any racial differences in perceptions of sexual harassment, a more racially diverse sample must be gathered. With a more diverse sample, a more variable age range, and more racial diversity among participants, future research on sexual harassment perceptions should yield interesting and important differences in perceptions among the races. In the meantime, the results of the present study suggest, along with additional research, that there are specific differences in perceptions of sexual harassment between men and women. It is important for those who take responsibility for developing sexual harassment policies, training programs, and reporting procedures to be aware of these differences and incorporate them into their educational and employee development efforts.

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Appendix

Sexual Harassment Scenario and Questionnaire

Are you ___ male or ___ female

Are you over the age of 18? ___yes ___no

Which description most closely matches your racial classification?:

___Asian ___Black ___Hispanic ___White ___Other (please specify _____)

In this questionnaire, you are asked to play the role of an individual who has just begun working for the We 'R' Us Corporation. Please assume that the information in the following account is true and is about you. We ask that you seriously consider both the information and the statements presented. Please respond based on exactly how you would feel in this situation.

You just started working for an organization. Your new job gives you real satisfaction and utilizes your talents. However, since the day you started, your immediate supervisor, who is a (male/female), has the habit of putting his/her hand on your shoulder in greeting and whenever you perform your work assignments well. On top of that, (he/she) has addressed you as "sweetie" and has regularly asked you to have dinner with (him/her) after work so you can discuss work-related issues.

The statements below refer to the account you just read. Please write the number that corresponds with the response that you most agree with, using the following scale:

1	2	3	4	5	6	7
Strongly Agree			Neutral	Strongly Disagree		

- ___1) The supervisor's behavior offends me.
- ___2) It does not bother me that my supervisor touches my shoulder in this manner.
- ___3) The supervisor addressing me as "sweetie" is completely harmless.
- ___4) The shoulder touching is just the way my supervisor shows approval.
- ___5) My supervisor is sexually harassing me.
- ___6) I would consider going out to dinner with my supervisor.
- ___7) It bothers me that my supervisor addresses me as "sweetie".
- ___8) I would not go out to dinner with my supervisor because I do not feel comfortable with the situation.

Are there any other comments that you would like to make about this situation?

Thank you for your participation!

Positive and Negative Perfectionism and the Shame and Guilt Dichotomy: Their Relationship and Their Relationship to Adaptive and Maladaptive Characteristics



Alex Gomez
McNair Scholar

ABSTRACT

Past studies have suggested that perfectionism is a maladaptive behavior. Also, studies have linked shame to several maladaptive traits and to perfectionism as it has been recently measured, which supports current theories of shame but not the current theories that suggest guilt is an adaptive emotion. Using Terry-Short's PNP scale designed to measure negative and positive perfectionism, this research demonstrated that perfectionism could be adaptive as well as maladaptive. Negative perfectionism was positively correlated to state shame and guilt, shame-proneness, with guilt-proneness demonstrating a less significant relationship but with a similar trend. Anxiety and hostility were positively correlated to negative perfectionism, state shame and guilt, and shame-proneness. Positive perfectionism demonstrated a positive correlation with pride and negative correlations to state shame and guilt.



Larry Burns, Ph.D.
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About the TRIO Programs

To fight the war on poverty, our nation made a commitment to provide education for all Americans, regardless of background or economic circumstances. In support of this commitment, Congress established several programs in 1965 to help those from low-income backgrounds and families with no previous college graduates (first generation). The first three programs established were Talent Search, Upward Bound, and Student Support Services. Thus, they are known as the TRIO Programs.

Since then, other programs have been added, including Upward Bound Math and Science, Educational Opportunity Center, The Training Authority, and in 1989, The Ronald E. McNair Post-Baccalaureate Achievement Program. The goal of all of the programs is to provide educational opportunity for all.

The Ronald E. McNair Post-Baccalaureate Achievement Program is designed to prepare highly talented undergraduates to pursue doctoral degrees. In addition, the goal is to increase the number of students from low-income backgrounds, first generation college students, and underrepresented minorities on college and university faculties.

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