

McNair Scholars Journal

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Assistant Vice President for Academic Affairs

Nancy M. Giardina, Ed.D.

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Dolli Lutes

Editor

Katya Konkle

Cover Design

University Promotions

Photography

John Corriveau/cover
Bernadine Carey-Tucker

Graphic Design and Production

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**Grand Valley State University
Faculty Mentors and Research Editors**

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Assistant Professor of Psychology

Danielle DeMuth, Ph.D.

Assistant Professor of Women & Gender Studies

Dan Golembeski, Ph.D.

Assistant Professor of French

Janel Pettes Guikema, Ph.D.

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and Literatures

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Assistant Professor of Psychology

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Ann Kroll Lerner, Ph.D.

Assistant Professor of Anthropology

Sebastian Maisel, Ph.D.

Assistant Professor of Modern Languages
and Literatures

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Assistant Professor of Sociology

Ellen Shupe, Ph.D.

Assistant Professor of Psychology

Jennifer Stewart, Ph.D.

Assistant Professor of Sociology

John C. Weber, Ph.D.

Assistant Professor of Geology

Message from Nancy M. Giardina

Assistant Vice President for Academic Affairs

We are proud to present the twelfth volume of the Grand Valley State University McNair Scholars Journal. It is the culmination of intensive research conducted by our student scholars and their faculty mentors through our Ronald E. McNair Scholars Program.

The Ronald E. McNair Scholars Program, now in its 14th year here at Grand Valley State University, provides an opportunity for students and faculty to apply much of what is learned within the classroom by engaging, outside the classroom, in research activities in a particular area of scholarly interest. These research activities provide a journey through the challenges and affirmations of scholarly work and better prepare students for graduate study and the pursuit of a doctoral degree.

Thank you to the faculty mentors who have worked so closely with our McNair Scholars to propel their research skills towards the next level of educational challenges.

Congratulations to the nine McNair Scholars whose research is presented here. Your journey and the challenges you have met during this scholarly activity speak to your talents and persistence in pursuing both your educational and life goals. Thank you for sharing your talents with the university community and continuing the spirit of this program.

Finally, thank you to all the people behind the scenes that work to sustain this program and produce this journal. Your work is valued as well.



Nancy M. Giardina, Ed.D.

Assistant Vice President for Academic Affairs



**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 underrepresented 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 groups) 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 underrepresented 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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Palestinian and Iraqi Women Refugees: An Examination of the Past Sixty Years



Kim Anthony
McNair Scholar



Sebastian Maisel, Ph.D.
Faculty Mentor



Danielle DeMuth, Ph.D.
Faculty Mentor

Introduction

Palestinian and Iraqi women refugees face daily challenges that many women throughout the world do not. These refugees cope with issues like poverty, deprived living conditions, violence, and sexual abuse, while access to medical and educational facilities remains limited. They depend on assistance provided by the United Nations, the United States, and host nations. According to several refugee commissions, the chronic underfunding of the United Nations' humanitarian organizations threatens to force a severe financial cut in the number and level of services provided to refugees. Urgent action is needed to ensure basic supplies, health care, adequate education, and psychological support reach families sheltered in occupied countries.¹

Researchers have investigated Palestinian refugee women to better understand their situation and to help alleviate the historical and social conditions that challenge the diaspora. This project examined Palestine's sixty-year history, beginning with Israel's declaration of statehood in 1948. This project is a comparative analysis that examines the research conducted on Palestinian refugees to determine how well that body of work can apply to Iraqi refugee women internally displaced following the American-led invasion in 2003. This paper seeks to answer the following questions: From which social and economic background do these women originate? How did this affect their displacement? Where did they go and what was their social situation? How do Palestinian and Iraqi refugees differ on these points?

This information becomes especially vital considering the limited research conducted on Iraqi refugee women. Palestinian and Iraqi refugee women are two significant populations worth studying because of their growing numbers

and the worldwide attention they have received due to their increasing plight. By better understanding Palestinian and Iraqi women's roles in their societies and histories, researchers can reject personal biases and make well-informed recommendations to help alleviate the collective concerns of these refugees. This paper also aims to make educated recommendations to governmental and humanitarian organizations thus adding to the dialogue on the social concerns of these women. Further, it attempts to predict and project future needs of Palestinian and Iraqi women refugees.

The Middle East: A History of Colonization

It is important first to take a step back and revisit the historical role foreign involvement has played in the Middle East to comprehend the current political, economic, and humanitarian climate in the region. Professor Mark LeVine comments on the importance of understanding how colonization has shaped Middle Eastern history in *Why They Don't Hate Us: Lifting the Veil on the Axis of Evil*; he states, "Without the colonial context we have no way of understanding the roots of the country's more recent history, including the dynamics of U.S. rule."² Many of the Middle East's current problems have deep roots in the manner Europeans colonized this area. For example, faulty mediation and deception by British and French imperial powers helped increase the tensions within the Middle East. In 1916, the secret Sykes-Picot Agreement between Great Britain and France discussed the division of the Ottoman Empire and its placement under foreign mandates. The interaction between ethnic populations and the distribution of natural resources came second to securing national interests of foreign powers. The agreement, however, con-

¹ World Vision Staff, "Middle East/East Europe: Five Years after War, Refugee Crisis Looms Large for Iraq," World Vision International, <http://www.wvi.org/wvi/wviweb.nsf/maindocs/5033B7CC8863D4EF88257412005E3119?open> document.

² Mark LeVine, *Why They Don't Hate Us: Lifting the Veil on the Axis of Evil* (Oxford: Oneworld Publications Limited, 2005), 10.

tradicted what British officials promised Arabs and Sharif Hussein of Mecca two years earlier in 1915. Sir Henry McMahon originally promised Hussein an Arab Kingdom in exchange for a military alliance to help defeat the Ottoman Empire and its ally Germany. Hussein believed this Arab kingdom would include all of Palestine plus Iraq, Syria, and Transjordan but the correspondence did not lucidly state exact borders. When the Central Powers were defeated in 1918, the once great Ottoman Empire dissolved into British- and French-controlled mandates. The colonization, deception, and miscommunication between European powers and the Arab world helped complicate relations that exist to this day in the Middle East.

Colonization and foreign intervention in the Middle East helped produce tensions between Arabs and Jews. The creation of a Jewish state contradicted what Arthur James Balfour, British Secretary of State for Foreign Affairs, stated in 1917: “His Majesty’s Government view with favor the establishment in Palestine of a national home for the Jewish people. . . Nothing shall be done to prejudice the civil and religious rights of the existing non-Jewish communities in Palestine.”³ After the foreign mandate and end of British colonial rule in Palestine, David Ben-Gurion, the first Prime Minister of Israel, declared on May 14, 1948, the establishment of a Jewish state in Palestine. This challenged the Balfour declaration because the subsequent Arab-Israeli War and the growing violence in the region forced six hundred to seven hundred thousand Palestinians—about 80 percent of Palestinians living in 1948 Palestine—to take shelter in refugee camps throughout neighboring Arab countries set up by the United Nations.⁴

The years between 1947 and 1967 form the nucleus of the Arab-Israeli conflict.⁵ Almost twenty years after the Israeli’s War of Independence—or the Palestinian’s al-nakba, meaning “the

catastrophe”—another war commenced in 1967 when Israel launched a preemptive strike against Egypt’s air forces that caused Egypt, Jordan, and Syria to declare war. Two opposing forces, the Palestinians and Israelis, fought to control certain areas they both considered rightfully their own in what has been called the Six-Day War. In the aftermath of the war, Israel occupied the Gaza Strip, Sinai Peninsula, the West Bank, and the Golan Heights. Israeli presence in the Occupied Territories has furthered Palestinian hostilities and resentment; protests and resistance became, and remain, daily affairs. Since the Six-Day War, nationalism, fundamentalism, violence, and terrorism on both sides has prevented peace from reaching the Middle East.

After Israeli’s declaration of statehood, four to five million Palestinians and their descendents have been displaced throughout the Middle East and the world. Within the Middle East, this conflict affects neighboring countries as refugees pour across borders seeking asylum. Across the globe, nations are forced to make foreign policy decisions regarding financial and military support for Palestine and Israel. International foreign policy toward the Arab-Israeli conflict can create admiration or enmity.

Iraq’s Historical Information

Again, to comprehend the current political, economic, and humanitarian situation in Iraq, it is important first to take a step back and briefly revisit the history. Phebe Marr, author of *The Modern History of Iraq*, states, “When its human and material resources have been well managed, Iraq has been a center of civilization and creativity whose benefits have spread to the rest of the world; when its leaders have failed, the result has been chaos, civil war, and economic stagnation.”⁶ This has proven true throughout Iraq’s history, beginning with the “cradle of civilization” in Mesopotamia in the

fourth millennium BC, and still exists today in the war-torn modern state of Iraq.

Similar to the Palestinians, many of the problems with contemporary Iraq have roots in the European colonization of the Middle East after World War I. In 1920, Iraq’s borders were drawn by the British and included three former provinces of the Ottoman Empire without regard to the diverse populations, natural resources, and geographic terrains that existed there.⁷ Twelve years later, Iraq became the first Arab state to gain independence from the British mandate. Along with the influence of colonial rule, Iraq’s cultural, economic, and political history has been shaped by the Hashemite Royal Family, the Nationalists, the Iraqi Communist Party of the 1950s and 1960s, the Kurdish parties, Saddam Hussein and the Ba’athist Party, and, more recently, the US occupation.⁸

Wars have left a lasting impact on Iraq’s legacy. In 1980, the first of four conflicts involving Iraq began when Saddam Hussein declared war on the newly established Islamic state of Iran. The Iran-Iraq war lasted into 1988 and caused billions of dollars in damage and millions of human casualties on both sides. Hussein financed the war with money borrowed from foreign lenders, including neighboring Kuwait. With Iraq indebted to Kuwait, among other reasons, Hussein commenced another war in 1990 and invaded the oil-rich country; a year later, American troops entered the conflict known as Operation Desert Storm. Hussein’s actions in Kuwait resulted in internationally imposed economic sanctions that lasted from 1990 until 2003. They are considered by some to be the most comprehensive of all time. These sanctions unintentionally hindered the provision of social services such as health and education, while the levels of poverty and malnutrition increased. Adding to the hardships created by sanctions was the onset of the second Gulf War, or Operation Iraqi Freedom, which began

³ Arnold J. Toynbee, “The Middle East, Past and Present,” in *The Arab-Israeli Impasse: Expressions of Moderate Viewpoints on the Arab-Israeli Conflict*, ed. Majdia D. Khadduri (Washington: Robert B. Luce, Inc., 1968), 53.

⁴ Nahla Abdo, “Women, War and Colonialism: Palestinian Experiences,” *Fireweed: Women, Race, War + Resistance* 77, (2002): 48.

⁵ Gregory Harms, *The Palestine Israel Conflict: A Basic Introduction* (London: Pluto Press, 2005), 85.

⁶ Phebe Marr, *The Modern History of Iraq*, 2nd ed. (Boulder: Westview Press, 2004), 3.

⁷ Ibid.,

⁸ Charles Tripp, *A History of Iraq*, 3rd ed. (New York: Cambridge University Press, 2007), 2.

in 2003 and continues today. America's War on Terror shifted its focus from Afghanistan to Iraq to dismantle Hussein's regime utilizing the rhetoric of Iraq's violation of the United Nations' charters regarding weapons of mass destruction. Since the occupation of Iraq and the dissolution of the central authority, war and sectarian violence between religious and ethnic groups forces Iraqis to seek safer homes and has created one of the largest migrations of asylum-seekers since the Palestinians' plight in 1948. An estimated two million Iraqi refugees have fled into neighboring countries, which has strained the economies and natural resources of those host countries. Another 2.2 million Iraqis have moved within the country to search for safer land.⁹

The Collective Concerns of Palestinians and Iraqis

To understand how the refugee crisis affects women, it is critical to first look at the collective concerns of Palestinians and Iraqis. According to the United Nations Relief and Works Agency for Palestine Refugees in the Near East's Web site, Palestinian refugees are defined as "persons whose normal place of residence was Palestine between June 1946 and May 1948, who lost both their homes and means of livelihood as a result of the 1948 Arab-Israeli conflict. . . . UNRWA's definition of a refugee also covers the descendants of persons who became refugees in 1948."¹⁰ In 1948, the Arab population of Palestine totaled 1.4 million; 900,000 Palestinians inhabited the territory that became Israel, 840,000 of whom were displaced. About 300,000 Palestinians sought asylum outside of Palestine, while the rest attempted to relocate in Gaza or the West Bank.¹¹

Estimates of Palestinian Refugees and Their Destinations, 1948-1949						
Destination	British Government	US Estimates	United Nations	Private Israeli Estimates	Israeli Government	Palestinian Sources
Gaza	210,000	208,000	280,000	200,000	-	201,173
West Bank	320,000	-	190,000	200,000	-	363,689
Jordan, Syria, Lebanon, etc.	280,000	667,000	256,000	250,000	-	284,324
Total	810,000	875,000	726,000	650,000	520,000	850,276
Estimates made	Feb. 1949	1953	Sept. 1949	End of 1949	1948	Nov. 1952

Facts and Figures About Palestinians (Washington, DC: Center for Policy Analysis on Palestine, 1992), 13.

Many Palestinians fled their homes due to increasing violence; however, the fear of the capabilities of Israeli soldiers also served as a secondary motive for Palestinian exodus. Rumors of massacres and rape traveled quickly from one village to another.¹² Samia, an Arab Christian, describes the situation to Wendy Pearlman:

We were living in West Jerusalem in 1948, and we evacuated our house and moved to Birzeit, which was my father and grandfather's hometown. We left out of fear. People were so afraid after they heard about the massacre at Deir Yassin. Members of the Irgun and Jewish underground came in trucks to the Palestinian areas and announced, "Look at what has happened! Leave the country! This can happen to you, too" . . . So, many of the refugees left because they were afraid.¹³

Violence and fear proliferated in Palestinian villages because crimes against women and children threatened the core of Palestinian life—the family. Palestinian tradition values the protection of women and children within the immediate family; a Palestinian peasant man once said, "My village, Sa'sa, didn't leave because of a battle. . . . There were other massacres—Jish, Deir Yasseen—

and there were stories of attacks on women's honour. Our villagers were especially concerned to protect their women, and because of this fear, many of the northern villages evacuated even before the war reached them."¹⁴ Fear of massacres and threats on women's honor encouraged many Palestinians to take flight.

Socioeconomic challenges confront Palestinians every day. In a dialogue moderated by the BBC, Mona, a Palestinian student from Gaza, and Anav, an Israeli literature graduate, exchange three letters describing their lives in Gaza and in Southern Israel, respectively. Mona states:

Gaza is like hell. . . . When Israel dismantled its illegal settlements and disengaged from the Gaza Strip in 2005, I was happy that I would finally be able to visit my friend who lives in the middle of the Strip whenever I wanted. But Israel didn't leave us [in] peace. How would you feel if someone else controlled your every movement? How would you feel if you didn't have the right to move inside your country; if you were prevented from studying abroad; if the cost of food and fuel was determined by someone else closing your borders; if you spent most of your nights in darkness? Why are patients prevented from having medicine?¹⁵

⁹ Refugees International, *The Iraqi Displacement Crisis*, <http://www.refugeesinternational.org/content/article/detail/9679>.

¹⁰ United Nations Relief and Works Agency for Palestine Refugees in the Near East, *UNRWA*, <http://www.un.org/unrwa/refugees/whois.html>.

¹¹ Rosemary Sayigh, *Palestinians: From Peasants to Revolutionaries* (London: Zed Press, 1979), 65.

¹² Samih K. Farsoun and Naseer H. Aruri, *Palestine and the Palestinians*, 2nd ed. (Boulder: Westview Press, 2006), 113.

¹³ Wendy Pearlman, *Occupied Voices: Stories of Everyday Life from the Second Intifada* (New York: Nation Books, 2003), 7.

¹⁴ Sayigh, *Palestinians*, 64, quoted in Farsoun and Aruri, *Palestine*, 113.

¹⁵ BBC News, "Sderot and Gaza: Letter Exchange," March 6, 2008, http://news.bbc.co.uk/2/hi/talking_point/7270785.stm.

Mona describes the situation that faces many Palestinians living in Gaza, while Ahlam Allan-Kader, a 25-year-old Palestinian student at Grand Valley State University, described her four years spent in high school in the West Bank as “interesting.” She remembers how her family and the families living in the neighboring refugee camp used to interact. Ahlam said, “We used to go to their weddings, they’d go to ours. . . . They are sweet people, they are trying to make due with what they have. Everything is so expensive, and a lot of them cannot afford to update their concrete homes.”¹⁶ Without a homeland of their own, generations of Palestinian refugees are forced to live in camps and rely on host governments and international organizations to provide medical and social services for survival.

Like Palestinians, millions of Iraqi refugees sought protection within their homeland, throughout the Middle East, and abroad because of the waves of internal violence and war. About half of the total refugee population migrated within Iraq to search for safer land while the other half fled abroad. Children comprise the large majority of internally displaced Iraqis in early 2008—about 60 percent of the total population in exodus. Women make up the second largest percentage of internally displaced Iraqis, comprising about 25 percent.

United States.

Migration of Iraqi Refugees	
Location	Number of Refugees
Internally displaced	1,900,000
Syria	1,200,000
Jordan	750,000
Lebanon	40,000
Iran	54,000
Egypt	100,000
Saudi Arabia and Gulf States	200,000

BBC News, “UN Urges Help for Iraqi Refugees,” April 7, 2007, http://news.bbc.co.uk/2/hi/middle_east/6562601.stm#map

Cumulative numbers of Internally Displaced People for 2008				
Month/2008	Number of Individuals	% Children	% Women	% Men
January	2,172,657	58.7	24.1	17.2
February	2,196,763	58.6	24.1	17.3
March	2,225,363	58.4	24.3	17.3
April	2,173,154	59.2	23.1	17.7

Iraqi Red Crescent Organization, The Internally Displaced Persons in Iraq: Update 34, May 28, 2008, http://www.iraqredcrescent.org/IDP_34_update_EN.pdf.

The majority of Iraqi refugees who fled abroad are in Jordan and Syria while a smaller number have sought refuge in Lebanon, Egypt, Iran, Sweden, and the

¹⁷ Tripp, *A History of Iraq*, 308.

¹⁸ Rachele Marshall, “As Iraq Moves Toward Theocracy, U.S. Squelches Democracy in Palestine,” *Washington Report on Middle East Affairs* 25, no. 5 (2006): 7-9.

Iraqis fled their homes because of violence and breakdowns in security. During 2006 and early 2007, an average of 100 Iraqi civilians were killed per day.¹⁷ Fundamentalist insurgents add to the hardships of religious minorities. For example, in Basra, a mini-theocratic state run by militiamen imposed a ban on alcohol and women were forced to wear headscarves.¹⁸ The BBC's Paul Wood visited Basra in December 2007 and discovered that "forty-two women have been murdered over the past three months for wearing make-up, or failing to wear the hejab. . . One official figures half of the city's Christian population has fled—and that's probably an underestimate."¹⁹ Insurgent threats, government-protected militias, death squads, and foreign militaries instilled fear into Iraqis—many of whom have large families they must protect—and they are left no choice but to evacuate.

Iraqis across every socioeconomic class, ethnicity, and religious background have been overwhelmed by the internal migration. Often, families move once for immediate relief from pertinent threats, such as nearby violence and bombings, and then move again for security, housing, water, and electricity.²⁰ Dr. Said Hakki, president of the Red Crescent, another international humanitarian non-governmental organization, said some of the most tragic consequences of the internal Iraqi migration turn up where destitute Iraqi villagers have collected in camps, shantytowns, and urban slums after leaving behind their homes and belongings.²¹

Some Iraqis turned to family and friends for refuge within Iraq, while others moved into other countries to seek

security. Upon entrance into these nations, refugees often face resentment and are treated like outsiders, tourists, or illegal immigrants.²² Iraqis face difficulties gaining legal work in host countries such as Jordan and Syria and are increasingly desperate for and in need of humanitarian assistance. Refugees face challenges in finding housing, obtaining food, and gaining access to health and education systems.²³

Personal and family security commands a central role in Iraqi's decisions to leave. The San Francisco Chronicle reported in January 2007 that "all kinds of people, from university professors to bakers, have been targeted by militias, insurgents and criminals. An estimated 331 school teachers were slain in the first four months of last year, according to Human Rights Watch, and at least 2,000 Iraqi doctors have been killed and 250 kidnapped since the 2003 U.S. invasion."²⁴ Statistics show 40 percent of Iraq's middle class, including lawyers, doctors, teachers, and businessmen, have fled Iraq. Professional Iraqis, especially those working with Americans, are susceptible to threats on their lives and those of family members as well. For example, Khalil, an artist, painted portraits for US troops and began receiving anonymous and threatening letters. Three weeks after the first letter, insurgents burned his gallery to the ground; shortly after this attack, a firebomb was thrown into his living room.²⁵ Ammar Abdullah, who also relocated to Damascus, said, "I used to run a translating bureau in Baghdad. I left in November last year after I received a threatening letter with a bullet in it saying don't ever open the office again. I closed up, and a few days

later a car bomb went off outside and completely demolished the office."²⁶ Middle-class Iraqis, and especially those working with the Americans, have been targeted by radical insurgents.

Palestinian Migration and the Implications for Women

Almost sixty years before the Iraqi refugee crisis, many Palestinians first looked for refuge close to home within Gaza and the West Bank because they believed they could return home within a couple of weeks. However, most Palestinians could not return to their homes because of increasing violence, restrictive occupation of their land, and frequent demolition of homes. After the realization that they could not go back, a minority of middle- to upper-class Palestinian refugees moved into neighboring Arab states to rent apartments and start a new life in cities such as Amman, Beirut, Cairo, and Damascus.²⁷ However, the bulk of Palestinian refugees lived off of the land as poor peasant farmers with little savings. These refugees became the vast majority who relocated into camps provided by the United Nations and other humanitarian organizations. In her article "Reconstructing Place for Palestinian Refugee Women: The Dialects of Empowerment," Abu-Ghazaleh presents various Palestinian women's firsthand accounts of life within various refugee camps. She reported that refugee camp life in 1948 led to physical ailments because of space restrictions, crowded living conditions, housing deficiencies, and poor overall infrastructure in the camp. She quoted a woman from the Balata Camp in the West Bank who said, "Here,

¹⁹ Paul Wood, "Uncertainty Follows Basra Exit," *BBC News*, December 15, 2007, http://news.bbc.co.uk/1/hi/world/middle_east/7145597.stm.

²⁰ James Glanz and Alissa J. Rubin, "Future Look of Iraq Complicated by Internal Migration," *The New York Times*, September 19, 2007, http://www.nytimes.com/2007/09/19/world/middleeast/19displaced.html?_r=1&oref=slogin.

²¹ Ibid.

²² Carolyn Lochhead, "Conflict in Iraq: Iraq Refugee Crisis Exploding," *San Francisco Chronicle*, January 16, 2007, <http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2007/01/16/MNG2MNBIS1.DTL>.

²³ Refugees International, *The Iraqi Displacement Crisis*.

²⁴ Lochhead, "Conflict in Iraq."

²⁵ BBC News, "Iraqi Voices: Escaping Abroad," January 9, 2007, http://news.bbc.co.uk/2/hi/talking_point/6176457.stm.

²⁶ BBC News, "Iraqi Refugee Stories," April 16, 2007, http://news.bbc.co.uk/2/hi/talking_point/6552267.stm.

²⁷ Ibid.

²⁸ Ilham Abu-Ghazaleh, "Reconstructing Place for Palestinian Refugee Women: The Dialects of Empowerment," *Canadian Women Studies* 15, no. 2/3 (1995): pg. 81.

one gets sick out of depression.”²⁸ This response was common among Palestinian refugee camp dwellers.

New generations of Palestinian refugees encounter the same difficulties that challenged Palestinian refugees sixty years ago. However, the arrival of new conflicts such as the 1967 war and two Palestinian *intifadas* (“uprisings”) have increased the number of refugees and complicated the situation in the Middle East. The number of Palestinian refugees who live throughout the Middle East continues to grow. According to UNRWA, the number of registered Palestinian refugees from 1950 to 2005 increased from 914,000 to 4.4 million, a 20.7 percent increase²⁹; about 1.3 million of those refugees live in fifty-eight recognized camps in the Gaza Strip, West Bank, Jordan, Syria, and Lebanon.³⁰

About one million of these Palestinian refugees live throughout the twenty-seven camps in the Gaza Strip and West Bank; these camps face poor socioeconomic conditions with an extremely high population density. For example, in Gaza’s Beach Camp, about 81,000 Palestinian refugees live within a single square kilometer.³¹ The high population density has created other problems—UNRWA’s Web site claims that in Camp Number One, located in the West Bank, “there is serious overcrowding, and the narrow alleys are in desperate need of repair. During funerals, the deceased are usually passed through windows from one shelter to another in order to reach the camp’s main street.”³² Though this may seem extreme, overcrowdedness is causing problems in other sectors as well, such as basic infrastructure of roads

and sewers. In fact, in 1992, the West Bank and Gaza Strip’s refugee camps had proper sewage in only 31 percent and 27 percent of camps, respectively. Otherwise, camps utilize open sewers.³³ This poses a serious health risk that is intensified by overcrowding.

Because of the high population density, medical issues are rampant while medical services are overextended. On average, each doctor in the health clinics attends to one hundred patients per day, and refugees are sometimes forced to seek medical services outside the camp but cannot because of blockades.³⁴ Overcrowding and poor sanitation can rapidly spread sickness and disease. Garbage and waste fill the streets when trash removal services cannot maneuver the crowded roads or narrow alleys. Likewise, bacteria and infectious disease can easily infiltrate drinking water reserves, which can lead to gastro-intestinal problems such as dysentery that most negatively affect infants, children, and the elderly. Inadequate sanitation and unclean water, especially in overcrowded camps, “are classic preconditions for infections such as viral, bacterial, fungal, and parasitic diseases. . . . Birzeit Community Health Unit reports that 48 percent of elementary schoolchildren in three West Bank camps were infected with intestinal parasites; malnutrition accompanied the parasitic infections, making the children more susceptible to infection.”³⁵ Preventable sicknesses such as waterborne and respiratory diseases are common among overcrowded Palestinian refugee camps because of overextended medical clinics, poor sanitation, and contaminated water.

According to the United Nations and

other international humanitarian organizations, Palestinian women in the Israeli-occupied territories have “borne the brunt” of the occupation.³⁶ The combined relationship between poverty, occupation, and violence helps promote women’s second-rate position in society. The poor socioeconomic conditions of the refugee camps are directly related to violence against women. These violent acts add to women’s hardships because of the cultural norms that discourage women from seeking help for domestic and violent abuse; thus they become easy targets for men. In her work *A Feminist Politics of Health Care*, Elise G. Young wrote that “women are specific targets of policies meant to demoralize, dispossess, and disempower Palestinians in the Occupied Territories. These policies include humiliation of women arrested, through physical and sexual terrorism; deportation; and attempts to control reproduction.”³⁷ The violent acts committed against women create psychological problems for the victims and often for their families as well. Ahmed, a clinical psychologist, comments on the psychological well-being of Palestinian women: “Palestinian women have experienced a double suffering. Some women have been beaten and tortured inside Israeli prisons. Hundreds of thousands have lost their husbands when they were killed, detained, or deported. Our traditional ways have not prepared Palestinian women for the responsibility of being the sole head of a household in a husband’s absence.”³⁸ Violence promotes and perpetuates women’s seemingly second-class position in society by forcing them to choose safety, by staying within the

²⁹ <http://www.un.org/unrwa/refugees/whois.html>.

³⁰ Ibid., <http://www.un.org/unrwa/refugees/wheredo.html>.

³¹ Ibid., <http://www.un.org/unrwa/refugees/gaza.html>.

³² Ibid., <http://www.un.org/unrwa/refugees/westbank/camp1.html>.

³³ Farsoun and Aruri, *Palestine*, 122.

³⁴ Mona Marshy, *Social and Psychological Effects of Overcrowding in Palestinian Refugee Camps in the West Bank and Gaza: Literature Review and Preliminary Assessment of the Problem*, International Development Research Centre, <http://www.arts.mcgill.ca/MEPP/PRRN/marshy.html#3%20Social%20and%20Psychological%20Effects>.

³⁵ Ibid.

³⁶ BBC News, “Palestinian Women ‘suffer doubly,’” March 31, 2005, http://news.bbc.co.uk/2/hi/middle_east/4394253.stm.

³⁷ Elise G. Young, *A Feminist Politics of Health Care: The case of Palestinian women under Israeli occupation, 1979-1982*, ed. Tamar Mayer (London: Routledge, 1994), 179.

³⁸ Pearlman, *Occupied Voices*, 196.

domestic domain, or risk exploitation in the public arena. Palestinian women of all socioeconomic classes in the Occupied Territories share common grievances of gender oppression and violence from foreign occupiers and Palestinian men. Women encounter complexities that arise from overpopulation in the refugee camps effecting safety, health, education, and employment. Further, violence against women from both occupying and Palestinian men puts women in a secondary position in society.

Since 1948, the importance of the Palestinian family has become evident, reinforced by their efforts to keep families together and protect the honor of their women. Sixty years ago, Palestinians left their homeland because of increasing violence, insecurity, and atrocities committed at Deir Yassin and Jish. Moreover, Palestinians wanted to stay close to their homes because they believed a return was eminent. But generations later, they remain in camps with barely livable conditions. Violence proliferates in the Occupied Territories and this trend appears to be repeating itself with the Iraqi women displaced during the American occupation since 2003.

Iraqi Migration and the Implications for Women

The American-led invasion of Iraq has garnered considerable international attention that has shed light on the country's refugee crisis. Although research on Iraqi women refugees is far less abundant than the research on Palestinian women, it does exist. Global Research studied Iraqi women refugees and discovered Iraqi women's rights and living conditions have deteriorated since the American-led invasion in 2003. The Women's Commission for Refugee Women and Children, a nongovernmental organization, conducted a study on Iraqi women refugees who fled to Jordan

and concluded that because they cannot work, these women are "at particular risk of sexual exploitation and abuse; they may be forced into prostitution and sex work as they struggle to support their families. Most refugees cannot afford to send their children to school or pay for even basic health care."³⁹ According to the *New York Times* and other sources, an estimated 50,000 Iraqi women and young girls sell their bodies into prostitution.⁴⁰ Iraqi women refugees, both abroad and internally displaced, face increasing rates of violence—especially sexual violence, mortal threats, and kidnappings. A World Health Organization survey conducted in 2006-07 found that 21.2 percent of Iraqi women had experienced physical violence.⁴¹

Not only do women face challenges created by violence and sexual exploitation, educational and literacy services are on the decline. Ironically, Iraq was one of the few countries in the Middle East that invested in the education of its women. In the early 1980s, "the Ba'th position on women was relatively progressive to start with, encouraging their education, literacy, and professional advancement. Initially, the war encouraged this by providing jobs for women and integrating them further into the workforce, particularly professional and educated women."⁴² But this situation began to change during the late 1980s because of heightened militarization that prepared Iraq for war. In the late 1990s, women's illiteracy grew to 55 percent.⁴³ As a result of the Iran-Iraq War, the invasion of Kuwait, and sanctions, economic hardships increased in the late 1980s and into the 1990s which raised the number of women-headed households and working women. Since the latest war in Iraq, education and literacy services offered to women continue to decline.

Maram, a 26-year-old Iraqi woman who came to the United States just two years ago, reiterated the complex issues

associated with American involvement in Iraq such as the instability in security and women's position in society. Similar to many other personal accounts, she seemed to have mixed within her a sense of nostalgia for the personal safekeeping provided by Saddam's regime and hopefulness for a better future, especially for women.

Before 2003, Maram remembered, "It was better because there was security. You could go out in the middle of the night and it was safe." But she was optimistic, even happy, when the Americans invaded because of the potential change it could bring. "We didn't have satellite, cell phones, or even the Internet. . . We have more freedoms with the Internet; we can chat, and with cell phones we can keep in contact with family members." However, her attitude changed when security within Iraq worsened.

As a translator working in a hospital on an American base in Mosul, Maram's biggest concern was personal and familial safety. Often, Iraqis and their families who associate themselves with Americans become targets for kidnapping, rape, or murder. Maram worked at the hospital for fourteen months and left the base only four times, each time with armed American protection because she was afraid someone would see her and put her or her family at risk. When asked what she would like to see in Iraq's future, Maram replied, "I want each woman to have the choice to drive, go to college, finish [school], work, and do something valuable with their life; and most importantly, have security."⁴⁴

Conclusion and Recommendations

As long as there is conflict in the Middle East, the demand for research conducted on women living in Palestinian and Iraqi occupied zones will continue to grow because the relations between war, violence, occupation, migration patterns,

³⁹ Women's Commission for Refugee Women and Children, *Iraqi Refugee Women and Youth in Jordan: Reproductive Health Findings*, http://www.womenscommission.org/pdf/jo_rh.pdf.

⁴⁰ Katherine Zoepf, "Desperate Iraqi Refugees Turn to Sex Trade in Syria," *New York Times*, May 29, 2007, <http://www.nytimes.com/2007/05/29/world/middleeast/29syria.html>.

⁴¹ Afif Sarhan, "New Iraq... Oppressed Women," *Global Policy Forum*, July 27, 2008, <http://www.globalpolicy.org/security/issues/iraq/attack/consequences/2008/0727oppressed.htm>.

⁴² Marr, *Modern History*, 209.

⁴³ Nadje Sadig Al-Ali, *Iraqi Women: Untold Stories from 1948 to the Present* (London: Zed Books, 2007), 193.

⁴⁴ Maram Weam, Personal Interview, August 20, 2008.

and the social role women fulfill will continue to pique academics' interest. It is important to study women in conflict areas because on October 31, 2000, the U.N. Resolution 1325 on Women, Peace, and Security expressed concern that "[c]ivilians, particularly women and children, account for the vast majority of those adversely affected by armed conflict, including as refugees and internally displaced persons, and increasingly are targeted by combatants and armed elements, and [the international community has recognized] the consequent impact this has on durable peace and reconciliation."⁴⁵ The latter part of this statement—"the consequent impact this has on durable peace and reconciliation"—packs a heavy punch. The Security Council believed without women's protection, involvement in peace negotiations, and appointment to positions of power, the troubled area cannot achieve peace. Resolution 1325 addressed the adverse impact of armed conflict on women, and recognized that women's contributions to peacekeeping and peace-building help promote stability.

In the future, I hope to continue my study on Palestinian and Iraqi women and the complexities they face as time progresses. To modify and improve my study, it would have proved most beneficial to conduct additional personal interviews. Because of time constraints, I performed only two interviews—I had the intention of doing twenty. Once I sat down and talked with Ahlam and Maram, their stories and experiences furthered my research and understanding of the Middle East by giving a personal touch to something that seems so far away. When I started researching, I did not realize how hard and time-consuming it would be to locate, contact, and follow up on sources. Often, I found myself tied up in the "run around"; sources would point me to in one direction and I would locate them, only to get pointed in another direction or redirected to the first person I talked to. Further, interviews conducted in the Middle East or heavily populated areas, as opposed to West Michigan, would enhance my research

because the amount of potential interviewees and their fresh experiences increase exponentially.

What I have learned from the Palestinian's sixty-year history is that the Israeli occupation, checkpoints, and blockades have hampered development in the educational, employment, and social sector. Also, the crowded conditions of the refugee camps that have led to the physical ailments and violence against women continue to rise.

Iraqis are facing similar difficulties. American occupation has compromised the security Saddam provided for his Iraqi citizens. Taking from the Palestinian's sixty-year experience and projecting my findings onto Iraqis, I would suggest the following: First is for policy makers to recognize that Iraqis, men and women, do not make up one monolithic bloc of ethnicities, religious identities, and personal beliefs. Secondly, the provincial Iraqi authority and American forces need to protect and help serve the best interests of women by providing a safe environment for women to voice their concerns, taking into consideration the importance of the role the family plays in Middle Eastern society. Thirdly, increase awareness of the resources available to women as victims of violence and sexual abuse. Fourthly, provide educational services for women and increase awareness of these facilities. Lastly, to implement these recommendations, it is necessary to allocate more funds to successfully run these programs.

⁴⁵ United Nations Security Council, *Resolution 1325 (2000)*, United Nations, <http://daccessdds.un.org/doc/UNDOC/GEN/N00/720/18/PDF/N0072018.pdf?OpenElement>.

Bibliography

- Abdo, Nahla. "Women, War and Colonialism: Palestinian Experiences." *Fireweed: Women, Race, War + Resistance* 77 (2002): 48.
- Abu-Ghazaleh, Ilham. "Reconstructing Place for Palestinian Refugee Women: The Dialects of Empowerment." *Canadian Woman Studies* 15, no. 2/3 (1995): 81-4.
- Al-Ali, Nadjie Sadig. *Iraqi Women: Untold Stories from 1948 to the Present*. London: Zed Books, 2007.
- BBC News. "Iraqi Refugee Stories." April 16, 2007, http://news.bbc.co.uk/2/hi/talking_point/6552267.stm.
- . "Iraqi Voices: Escaping Abroad." January 9, 2007, http://news.bbc.co.uk/2/hi/talking_point/6176457.stm.
- . "Palestinian Women 'Suffer Doubly.'" March 31, 2005, http://news.bbc.co.uk/2/hi/middle_east/4394253.stm.
- . "Sderot and Gaza: Letter Exchange." March 6, 2008, http://news.bbc.co.uk/2/hi/talking_point/7270785.stm.
- Farsoun, Samih K., and Naseer H. Aruri. *Palestine and the Palestinians*, 2nd ed. Boulder: Westview Press, 2006.
- Glanz, James, and Alissa J. Rubin. "Future Look of Iraq Complicated by Internal Migration." *New York Times*, September 19, 2007, http://www.nytimes.com/2007/09/19/world/middleeast/19displaced.html?_r=1&oref=slogin.
- Harms, Gregory. *The Palestine Israel Conflict: A Basic Introduction*. London: Pluto Press, 2005.
- Marr, Phebe. *The Modern History of Iraq*, 2nd ed. Boulder: Westview Press, 2004.
- LeVine, Mark. *Why They Don't Hate Us: Lifting the Veil on the Axis of Evil*. Oxford: Oneworld Publications Limited, 2005.
- Lochhead, Carolyn. "Conflict in Iraq: Iraq Refugee Crisis Exploding." *San Francisco Chronicle*, January 16, 2007. <http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2007/01/16/MNG2MNJBIS1.DTL>.
- Marshall, Rachelle. "As Iraq Moves Toward Theocracy, U.S. Squelches Democracy in Palestine." *Washington Report on Middle East Affairs* 25, no. 5 (July 2006): 7-9.
- Marshy, Mona. *Social and Psychological Effects of Overcrowding in Palestinian Refugee Camps in the West Bank and Gaza: Literature Review and Preliminary Assessment of the Problem*. International Development Research Centre, <http://www.arts.mcgill.ca/MEPP/PRRN/marshy.html#3%20Social%20and%20Psychological%20Effects>.
- Pearlman, Wendy. *Occupied Voices: Stories of Everyday Life from the Second Intifada*. New York: Nation Books, 2003.
- Refugees International. "The Iraqi Displacement Crisis." www.refugeesinternational.org/content/article/detail/9679.
- Sarhan, Afif. "New Iraq... Oppressed Women." *Global Policy Forum*. July 27, 2008. <http://www.globalpolicy.org/security/issues/iraq/attack/consequences/2008/0727oppressed.htm>.
- Sayigh, Rosemary. *Palestinians: From Peasants to Revolutionaries*. London: Zed Press, 1979.
- Toynbee, Arnold J. "The Middle East, Past and Present." In *The Arab-Israeli Impasse: Expressions of Moderate Viewpoints on the Arab-Israeli Conflict*, edited by Majdia D. Khadduri, Washington: Robert B. Luce, Inc., 1968.

Tripp, Charles. *A History of Iraq*, 3rd ed. New York: Cambridge University Press, 2007.

United Nations Commission on the Status of Women. Fifty-second session, March 23, 2008.

<http://domino.un.org/UNISPAL.NSF/22f431edb91c6f548525678a0051be1d/2c41440826c9ef3685257402004cc9e1!>

OpenDocument.

United Nations Relief and Works Agency for Palestine Refugees in the Near East. UNRWA. <http://www.un.org/unrwa/refugees/index.html>

United Nations Security Council, "Resolution 1325 (2000)." <http://daccessdds.un.org/doc/UNDOC/GEN/N00/720/18/PDF/N0072018.pdf?OpenElement>.

Women's Commission for Refugee Women and Children. *Iraqi Refugee Women and Youth in Jordan: Reproductive Health Finding*. http://www.womenscommission.org/pdf/jo_rh.pdf.

Wood, Paul. "Uncertainty Follows Basra Exit." *BBC News*, December 15, 2007. http://news.bbc.co.uk/1/hi/world/middle_east/7145597.stm.

World Vision Staff. *Middle East/East Europe: Five Years after War, Refugee Crisis Looms Large for Iraq*. World Vision International. <http://www.wvi.org/wvi/wviweb.nsf/maindocs/5033B7CC8863D4EF88257412005E3119?opendocument>.

Young, Elise G. *A Feminist Politics of Health Care: The Case of Palestinian Women under Israeli Occupation, 1979-1982*. Edited by Tamar Mayer. London: Routledge, 1994.

Zoepf, Katherine. "Desperate Iraqi Refugees Turn to Sex Trade in Syria." *New York Times*, May 29, 2007. <http://www.nytimes.com/2007/05/29/world/middleeast/29syria.html>.

Exploring Permanent Property: An Exploration of the Tattoo Acquisition in the Midwest



Tiffany Cross
McNair Scholar



Ann Kroll Lerner, Ph.D.
Faculty Mentor

Abstract

America has become a society in which almost anything can be bought or sold. This study, through both the ethnological comparison of contemporary tattoo acquisition research and ethnographic fieldwork in Graylin, Michigan, analyzes the increase in the acquisition of tattoos within the past two decades. Specifically, this study focuses on tattoo acquisition in the Midwest and tests whether the expectations gained from the literature are significantly relevant to this region of the United States. Through interview, survey, and participant observation, the goal of research ultimately is to analyze cultural transmission and trends. In past studies, the focus has been on class, identity, consumerism, and subculture distinction, but this study examines these four “themes” together to gain some understanding of tattoo acquisition as a whole.

**Note: Many of the names in this study are aliases.*

Introduction

Miami Ink, *L.A. Ink*, and now *London Ink*. These reality television shows exemplify the prevalence of tattoo acquisition in the twenty-first century. These shows feature tattoo artists who through their craft have become household names in the manner of other pop culture celebrities like Britney Spears and Madonna, both of whom are also tattooed. It is not just television that illustrates the growth of tattoos in the United States. If one were to visit local libraries and bookstores, one might notice shelves filled with books like Steve Gilbert’s *The Tattoo History Source Book*, discussing the tattoo’s past, or Dale Rio’s *Tattoo*, filled with pages upon pages of photographs establishing the tattoo as many things from an emblem of independence to an art form. There are magazines like *Tattoo Artist Magazine*, a self-proclaimed “quarterly trade journal for the Professional tattooer.” A plethora of scholarly articles in economics, sociology, psychology, history, and anthropology and reference books provide evidence of the tattoo’s surge in popular interest. A 2003 survey done by Scripps Howard News and The Ohio State University reported that 15 percent of the U.S. adult population have tattoos and the figure rises to 28 percent of in adults younger than twenty-five (Kang and Jones 2007, 42). Accepting this figure’s accuracy, it means that nearly 450,000 Americans have at least one tattoo.

The popular perception holds that before influential cultural icons like the Rolling Stones started revealing their tattoos to the public in the 1970s and 1980s, only sailors, “loose” women, the blue-collared, and criminals had tattoos. In the eyes of the mainstream or average American, these individuals were just as immoral or impure as the tattoos they acquired (DeMello 2000, 44-52). The tattoo was something considered exotic or weird that had originated amongst savages in what were believed to be backwards or less civilized cultures

(Kosut 2006; DeMello 2000). Sailors and military men who came back from tours in the Pacific are often credited with bringing traditional Polynesian body art to the shores of North America. As it arrived in the States, it spread increasingly amongst the sailors, factory workers, even carnies—essentially among the working class (Thomas, Cole and Douglas 2005; DeMello 2000).

Today, the tattoo has made considerable inroads into American culture. The so-called everyman and everywoman are acquiring tattoos in the twenty-first century. It appears that it is losing its bad reputation and can be seen more and more on the necks, hips, backs, and arms of America's population. The rapid acceptance has given researchers across the social sciences reason to take notice. Their studies have acknowledged the tattoo's once exotic cross-cultural roots, its tumultuous American history, and growing acceptance in late-twentieth/early-twenty-first century American culture.

Some of the most recent in-depth pieces such as Margo DeMello's *Bodies of Inscription* (2000) and Clinton Sanders' *Customizing the Body* (1989) have sparked several other tattoo acquisition investigations. Contemporary literature establishes four main themes: class, identity, commoditification/consumerism, and culture-subculture. Stemming from these themes are embedded expectations: contemporary tattooees are of the middle class; Americans acquire tattoos to create new identities for themselves; the increase in acquisition is linked to American consumerist habits; and tattoo subcultures within the United States, so-called "tattooed people," are trying to separate themselves from the general practices of most contemporary tattooees. Current research attempts to qualify or disqualify these expectations within contemporary tattoo circles by analyzing tattooees, tattooers, and anyone else connected to them.

In my research, I apply these expectations to my own testing ground, Graylin, Michigan. Graylin is a middle-size Midwestern city, population 193,000, located in southwestern Michigan. It is the chosen site of my pilot study because other research ignores regions outside of large urban centers like Los Angeles, New York City, Miami, and Chicago.

Auto-Ethnography

My interest in tattoos began in my childhood. My father, through his civil service career, was continually invited to the different cultural events around Chicago. I remember seeing tattoos for the first time at the yearly Puerto Rican Day parade. In 1996, at ten years of age, none of the people I knew personally had tattoos (or at least visible ones), and although I may have seen them on television the sight of one up close sparked my interest significantly. I did not know at the time what people widely thought of tattoos, but I know I had not seen many of them. I was unsure of why this was the case. In my opinion as a child, I thought the decoration was worth my interest and attention. Surely, the individuals who had acquired these tattoos must have also believed similarly. However, after pointing a tattoo out to my father that day, I learned that he disapproved of them considerably. According to him, and later reinforced by my mother, if I even thought about getting a tattoo, I would be in a tremendous amount of trouble.

Similar to my parents' beliefs were those of my friends' parents and my teachers. I received my elementary and secondary educations in private Catholic schools and I knew from the way other parents reacted to the sight of tattoos or discussion of tattoo acquisition that tattoos (in addition to piercings other than one and just one in the bottom of the ear lobe) were unacceptable, tasteless, shameful, and unladylike. Students who came to school (in both elementary and high school) with piercings in any place other than the ear would receive a detention and were asked to remove their piercings permanently. In high school, students would be sent home if their tattoos were exposed and made to cover it or not come back to school.

I remember after pleading with my mother, she took me to get a piercing in my upper ear cartilage for my fourteenth birthday. This piercing, although not any larger or shaped any differently, is not a traditional lower earlobe piercing and therefore appeared to be provocative. When my father saw the piercing, he was very displeased. He asked me what else I intended on piercing, making me feel ashamed. My friends at school

were amazed at the piercing, I was a rebel in their eyes. The piercing gave me some type of "cool" status. I was suddenly aware that in American culture, an unacceptable behavior or practice is "cooler" within younger circles and my experience was a clear example of this divide between generations.

As I continued to see tattoos throughout the city, my cerebral interest grew intensely. I saw people with several small tattoos and others with their arms, backs, and legs covered in murals of ink, or the "tattooed people." None of these varieties seemed weird or immoral to me. They appeared to wear the figures, shapes, and letters on their skin without fear that someone might constantly think negatively about what they had chosen to do to their bodies. I wondered how their tattoos seemed so prominent and pronounced to me, but as I watched these individuals, their tattoos were not simply tattoos; they had become one with that "self," that person.

In my mid-to-late teens, tattoos exposed me to a larger world outside my family and friends. My interests in tattoos led me to examine my family's values in comparison to mainstream media values and the values of friends outside of my original social network. As tattoos started cropping up on the celebrities I liked or idolized, I found that despite my parents' objections, I personally approved and admired the practice. At the age of eighteen, once I could legally get a tattoo, I decided that I would not get just anything or simply get a tattoo for a tattoo's sake. I had been a fan of tattoos for too long and I had older friends with tattoos. I knew what went into acquiring a tattoo. I'd seen the work being done and had witnessed the pain one endures during and after acquisition. In the summer of 2006, I went with a friend when he decided to acquire an Aztec symbol on his upper back in a tattoo studio in Logan Square, an area on the north side of Chicago. He held my hand through every wince during the acquisition. Afterward, I had to help him put his shirt on over his open wound and then heard his audible discomfort on the drive home. Personally, I could not go through that amount of pain for reasons I deemed childish or artificial. The permanence and pain that come along with a tattoo

heavily influenced the length of time I took to acquire a tattoo and to make the final decision. Therefore for the next two years, I put considerable thought into my acquisition. This thought process included not only ideas about placement and design, but also the date and studio I was going to get my tattoo. I wanted a tattoo that symbolized a hidden aspect of my identity, and I specifically wanted words.

In discussing tattoo acquisition throughout that March and April with tattooed friends and a few of their artists, I heard that sometimes one does not want a tattoo first and then decides on the design. Instead, he or she wants a design to be tattooed on them. It is not the desire for a tattoo but a desire for something significant to be tattooed on the self which drives people to acquire one. I understood this more clearly when I came upon the expression *Bearfaidh Me Bua*—"I shall overcome" in Gaelic.

I am one-part Irish, but one would never know it just by looking at my caramel complexion. I also grew up in an area on the south side of Chicago with enormous Irish pride. I am proud of all the parts of me and I acknowledge them equally. It is also important to note that I've experienced more than my share of tribulations growing up with parents who struggled to provide their children with all the opportunities that they had never had. "I shall overcome" means more that I have and will not allow adversity to stop me. For me, this message combines my heritage and my struggles. Additionally, I chose to put the Celtic symbol for the Trinity (father, son and Holy Spirit) below the phrase to signify my agnosticism ironically.

I found the Graylin studio where I acquired my tattoo by asking friends where they had acquired their tattoos. By investigating the quality of work and exterior appearance of the various shops, I decided on a studio located on the south side of Graylin. Through my experience with tattooed friends, I knew that tattoos were ultimately collaborations between the artist and the tattooee. From what I have seen and heard, people go into a studio with a design and usually get a tattoo in which the size, color, placement, or design has been negotiated according to what the artist thinks is right for the

tattoo. Through the conversation with my artist, I learned that I had to enlarge my original words and symbol so that the ink would not "fall in on itself." My artist was considering the elasticity of my skin and the components of the ink and how the ink would settle as he applied it to the specific area of my body and the particular tattoo I wanted. I was extraordinarily satisfied with the work.

For me, the acquisition of my tattoo was something special, almost spiritual, and I found a studio and artist who could understand this. In actually acquiring the tattoo, I felt that I had moved past the infamous impulsive tattoo phase of adolescence and that I was making a rational and careful decision based on who I was and who I wanted to be. I showed my parents the tattoo a few weeks after my acquisition, and despite their earlier opinions they accepted my decision. I explained what it meant to me, and in a way I think I convinced them that it was acceptable for me. The two of them appreciate the discrete location of my tattoo, recognizing that if I did not want anyone to see it, it could be conveniently hidden. I selected this location for two reasons. First, I did not think the design would look as good anywhere else. Secondly, I know that there are some employers who still look down on individuals with visible tattoos. I believe that it was my acquisition that also led many of my close friends' parents to have a more positive attitude about the practice. They had known me for years and seeing as I was not a rebellious, wild, or troubled individual, their assumptions about tattooees had been somewhat disproved.

My personal interests and experience expanded into a preliminary research project on tattoos and their acquisition. Growing up in Chicago and moving to Graylin, Michigan, for college presented me with an alternate sense of the Midwest. In the north side neighborhoods of Chicago, Boystown and Belmont, I saw the tattoo culture of a big city. Chicago has a large tattoo/piercing subculture found in other major urban centers like Los Angeles and New York City. There are numerous heavily tattooed and pierced individuals, as well as renowned tattoo establishments such as The Dragon Tattoo & Body Piercing

and M. Davis. From what I had seen there was little evidence of a significant tattoo circle or subculture within Graylin. Chicago, even with its size and influence, was not at the cutting edge of tattooing. As with fashion trends, Chicago and the Midwest are "trend followers" of New York City and Los Angeles. My research explores the tattoo culture of my home, the Midwest, the land between the two culturally influential coasts. I chose to focus on Graylin as a microcosm of tattoo culture and acquisition in the Midwest. The critical question I ask here is, "Does Midwestern tattoo culture compare to the expectations of literature set by research elsewhere?" Past research, limited to big cities essentially, examines the cutting-edge trends and their origins but not really the cultural transmission to other places. In understanding tattoo acquisition in the Midwest I hope to learn something more about my own acquisition.

Methodology

To collect my data, I surveyed various Graylin residents, conducted interviews with Graylin residents, and interviewed two tattoo artists in each of the more popular and well-known Graylin studios. Participant observation was a necessary part of this study as well. I observed both of the areas in which the two studios are located for two days, each for three hours at a time for two weeks, to evaluate appropriately the demographics of the clientele compared to the neighbors. In order to survey individuals I used three methods: email correspondence, phone conversations, and an anonymous survey posted on a Web site. To find individuals to participate in either the anonymous survey or the personal interview, I used a snowball method. I asked acquaintances and random individuals, who then asked their family, coworkers, or friends to contact me if they were interested, and friends of friends did the same. The end result of the data collection was fifty-two surveyed individuals and fifteen interviewees.

In survey and interview, out of the individuals who expressed interest, I selected a mix of individuals, those with and without tattoos, in order to get a spectrum of thoughts and opinions on the

subject. I asked each informant several questions pertaining to her or his specific knowledge and perception of tattooing (see Figure 1). We also specifically discussed placement, design, and size, as these might indicate whether an individual belongs to a subcultural group or adheres to certain cultural or consumer norms. Each interview may have also touched upon other topics like class, gender, and sexuality, but not necessarily. With the tattoo artists, I explored trends in design, the demographics of their current and past patrons, meaning or symbolism of past work, and their knowledge of the tattoo community within and outside of Graylin. Additionally, I asked if they had any theories about the growth in tattoo acquisition.

For my participant observation I chose two studios, one on the west side of the city and the other on the south side. When I initially considered this study, I discussed tattoo acquisition with friends, classmates, and associates. These two locations were mentioned most often. The west side location is slightly separated from new business growth in an area by train tracks. The more recently built establishments are closer to the heart of downtown and they are just before the train tracks. Before the train tracks, one will notice the majority of the businesses have large open windows, stainless steel features, detailed lettering, and clear sidewalks. One side of the street holds two bars frequented most by local college students and young professionals and a public house most frequented by a mix of college students or college-aged individuals, young professionals, and persons in their thirties or older. Located just a few buildings down from these establishments is a newly built firehouse lending a sense of safety to that part of the neighborhood.

Just behind the tracks on the corner of Bird Street is the small tattoo studio. Directly to the front of the studio is a pawn shop with a dusty and slightly torn awning displaying its name, and to its left are two local Mexican restaurants and a few commercial banks. The residents are a mix of college students and middle- and lower-class African American, Caucasian, and Hispanic families. The sidewalks of these streets are littered

with flyers or wrappers. Every other storefront is vacant, most of the buildings are older brick buildings, and most have paint chipping from their siding or signs.

The tattoo studio itself is decorated in red, white, yellow, and orange lettering, which spells out the studio's name on the front and side windows as well as on the sign that borders the building and a small sign advertising a special on multiple piercings for \$20 each. The interior is a small space in which there are a few chairs lined up against the windows for customers to sit in, books of flash pages (ready-made tattoo designs) for customers to look through, and a few decorations—items like a flame-decorated skateboard. Upon entrance, there is a glass table where the individual who takes appointments or sets up piercings sits. Sometimes artists sit up there with this individual and are able to talk with the customers and help them make a decision or clear something up. When I went in to introduce myself, the tattoo artists and piercers were all in the back of the studio, but when I returned the second time to confirm my interviews, one of the artists was sitting at the front desk and others were sitting along another table which displayed different piercing tools and accessories to the back, near the tattoo and piercing areas. The piercing and tattoo areas are small but not cramped. There is plenty of room for the artist's tattooing station, materials, drawings, and awards. Everything from the table to the ink is organized to fit into the room while allowing enough room for more people to accompany a tattooee or person getting pierced. Everything is kept in what seems like its proper place. This establishment employs three male artists as well as two female and two male piercers, and the artists themselves are originally from Graylin. However, there are times when the studio employs visiting artists—artists who the west side studio artists met at conventions or through other tattooees.

The south side studio is located in an area that is similarly racially and economically diverse. Here, one notices that the neighborhood is trying to diversify its business and change economically. It is just seconds from the heart of downtown Graylin as well. However, instead

of bustling restaurants, boutiques, and bars, Diversion, the street that the south side studio is located on, houses several vacant or abandoned storefronts and buildings. There is also a food pantry, a thrift store, and an older bar to the left side of the street, all in need of repair. The lettering, siding, and decorations are either falling off, in need of touch-up, or lack any color or refurbishing other than a bleak tan. Most recently, a restaurant and a bar opened right next to one another on the right side. The bar has a shiny silver décor and large windows and glass door that allow passersby to see activities inside. The restaurant is decorated in navy and dark red insignia and décor.

Immediately to the left of these newer establishments is a much older pub without the large polished glass windows and modern décor. It caters to a more casual clientele. The tattoo studio itself is located next to a popular lesbian, gay, bisexual, and transgender (LBGT) club that proudly hangs a rainbow flag outside and a few buildings down from a punk music venue. The residents in this community are an eclectic combination as well. The pantry and thrift store along with the bars lend the street a mixed atmosphere.

Throughout the weekend, I observed and talked to teenagers (both young males and females) dressed in very tight jeans with hair of many abnormal shades, spiked hair, or hair covering their faces—teens who would be described as punk, emo, or scenesters. These individuals “hung out” at a small music establishment called the DAAC. Toward the two newer establishments, I observed an older crowd of people dressed much more formally and mostly Caucasian. As I talked with a few groups of these people on separate nights, I learned that many had grown up in Graylin and were Dutch and Christian. Many informants were young adults who were finishing up their undergraduate or graduate education or recently entered into the workplace, while others were in their late twenties to early- and mid-thirties. Both the older pub and the LGBT club were hosts to a mix of people, but more so the club, with people of different ethnicities and class wearing everything from baseball jerseys to business attire.

The tattoo studio itself has an open

seating area with a small set of chairs against the window. The other spaces in the seating area are lined with books of flash pages. The wooden floor is polished and gleaming and the design and lettering on the front window is simple, not flashy. It reads the name of the studio as well as the studio's telephone number. The door displays the days and hours of operation. Inside the studio are what seemed to be neatly and purposefully placed designed skateboards and a designed motorcycle. There are also plaques and awards placed carefully on the walls and several trophies, including a recent one on top of a wall that separates the waiting area from the artists' areas. Everything in the studio is polished and sits in a manner that gives the entire studio a very spacious look. The desk worker is always the same woman; she helps customers set appointments, answers the phone, and sorts out inquiries with the customers. The piercing and tattoo stations are spotless and roomy. While one might enter a tattoo studio expecting something else, this studio has the feel of a trendy doctor's office. The studio also employs seven male artists (two originally from the Graylin area, one from a nearby community, and one from the east side of the state) and two piercers, the master piercer and his male protégé.

Graylin State University is the largest university in the Graylin area. It is especially important to discuss my investigation of Graylin State University's influence in the community because of how it affects tattoo acquisition in Graylin. In past years Graylin State's student population mainly lived in the small town of Alister, Michigan. With the growth of the University and development of free bus transportation between its Graylin and Alister campuses, Graylin State students have migrated into the city and have spread some influence. Several Graylin students come from communities outside of Graylin and have brought differing and contrasting values and beliefs with them. It is necessary to take into consideration how these values and beliefs have transformed or influenced tattoo acquisition in Graylin.

Literature Review

From exhibitionism and spiritual awakening to sexuality and individualism, there are a range of reasons why contemporary Americans say they acquire tattoos and a range of works that analyze everything from the contemporary developments in the profession to the associated attributes. In literature that focuses on why, who, and where people acquire tattoos, four themes—class, identity, consumerism, and culture-subculture—are prevalent. It is necessary to discuss each theme in order to illustrate my expectations for this research.

Class

Class at one time was an indicator for whether or not one would or could acquire a tattoo. Looking at the history of tattoos in the United States, researchers agreed that before the 1980s the working class constituted the majority of tattooed individuals (Seward 1990). It has been fascinating for anthropologists as well as a spectrum of other social scientists to watch as tattoo acquisition moved among the classes, the larger middle class in particular. In "Legitimizing the First Tattoo: Moral Passage through Informal Interaction," Katherine Irwin discussed how the middle class developed a set of legitimization techniques to supposedly maximize what they saw as the positive benefits of becoming tattooed (having independence and autonomy from authority) and minimize the negative meanings associated with tattoos (being low-class, criminal, dangerous) (2001, 54). Irwin argued that middle-class tattooees circulated in several social worlds. While at school and with friends, individuals of the middle class would often learn that tattoos symbolized independence and freedom from conventional society. However, at work, with friends, or hanging out with individuals who more or less strictly adhered to the rules and practices of conventional society, potential tattooees continued to see getting tattoos as courageous and acceptable behavior. It was through their interactions with tattoo critics (perhaps a mix of professionals, clergymen, and the like) that potential tattooees studied and discovered how a tattoo could change their interaction in conservative social worlds (2001, 58). What scholars like Ir-

win and Margo DeMello, author of *Bodies of Inscription* (2000), concluded is that the tattoo has moved into the middle class and anchored itself amongst those who initially disapproved of the practice. What is a bit unclear in the works of DeMello, Sanders, Kosut, and Irwin is how exactly the middle class is defined.

Class is a relatively ambiguous and often contradictory term that can be described by shared values, practices, or socioeconomic status. Some experts might say that the middle class makes America what it is, meaning that it is the defining aspect of the American way of life. There is supposedly not simply a lower class and a ruling class, but a class in between of educated people who share the same traditions and values. This category is characterized by the so-called stability it brings to the economy and by hard-working Americans with a hope for success and sense of social responsibility, as well as an emphasis on family and education, particularly a college education (Hochschild 1995; Kalil 1999). The middle class has been stretched out to include almost every person probably under the top 10 percent of American income. Essentially, even the exceedingly wealthy have a place in the middle class if they hold these values and participate in the allotted practices (Kalil 1999). Therefore, when evaluating Graylin, I used shared practices and beliefs instead of income to distinguish an individual's class. For me, the stereotypical middle class traditionally eats dinner as a family, attends church or religious events together, sends children to college, makes children aware of social responsibility, has children start working at an early age, and readily enjoy activities and events with a larger extended family. In this way, an individual can also declare him or herself of a particular class just like the DeMelt family (an extremely wealthy and prominent Graylin family), who often assert that they have middle-class values.

Identity

Identity is a theme characterized by what the tattoo ultimately does or provides for the individual who acquires it. Especially in the last ten years experts have argued that it is through tattoo acquisition that the modern individual intentionally attempts to mold him- or

herself into the person he or she wants to be, to ultimately construct his or her social self (Atkinson 2004; Feathersome 1999; Wohlrab, Stahl, and Kapperler 2007; Braunberger 2000). The body, according to Craig Shilling, author of *The Body and Social Theory* (1995), is always in this process of becoming. In this theory, Shilling asserts that the body's shape, size, appearance, and contents are subject to reconstruction on a continual basis. Through the choice to acquire and the specific qualities (color, style, placement, and design) a person selects for his or her tattoo, the individual is defining a persona according to his or her personal standards, opinions, and internal beliefs. Atkinson and Young (2001) write that "[tattooing is a] process of intentionally reconstructing the corporeal in order to symbolically represent and physically chronicle changes in one's identity, relationships, thoughts and emotion over time" (118). Through the literature individuality stems from a sense that a person alone is taking control over his or her own body, that ownership has been taken back from someplace or someone, and that this tattoo provides the self with something that is specific to the individual (Featherstone 1999). From the nature of the reading, I am to understand that the individual seeks to take back this ownership from society or from one's respective families or class.

Another theory is that a tattoo provides not an identity in itself, but rather independence. The acquisition of the tattoo separates an individual from the ideals, values, and beliefs that they have rejected from the broader society (Atkinson and Young 2001). The tattoo historically has been that symbol of rebellion, and here we see the tattoo emerging as a symbol of values and beliefs anew. The individual establishes his or her independence because the tattoo as a symbol is still enough to visually separate oneself from society at large (Bell 1999, para 4). Here, the tattoo serves as a distinction within the accepted social construction and not a completely different or new identity for the tattooee. Often heard is that individuals acquire their tattoos to illustrate their opposing beliefs about religion, sexuality, or the "right life."

Commodification/Consumerism

While some believe that the recent increase in tattoo acquisition is linked to notions of self-identification and independence, others contend that within our consumer culture the tattoo has become just another commodity in a world where almost anything can be bought or sold. In this instance, one does not acquire a tattoo in the pursuit of a separate, authentic self, but just to purchase "something" else. According to articles like "The Possibility of Primitiveness: Towards a Sociology of Body Marks in Cool Societies" by Turner (2000), the tattoo is no longer an emblem of rebellion and buyers need not beware because the tattoo today is optional, narcissistic, impermanent, and decorative (cited in Featherstone 1999). The adjectives optional, narcissistic, impermanent, and decorative are now attributed to the tattoo because it is, in the opinion of Turner, a commodity. It went from a countercultural representation to a fashion statement that teenagers and twenty-somethings can make, later remove, and possibly regret. Within the realm of this literature, the tattoo as a commodity in our "throw-away culture" is supposedly just like any other product the consumer buys in a market where the consumer is separated from the means of production and has no real knowledge of how things are produced (Sweetman 1999; Kosut 2006).

Culture-Subculture

Culture-subculture is a theme linked together because it illustrates how outside cultures have influenced the contemporary subcultural American trends in tattooing. Today, Western movements, most notably the Neo Primitive movements, are adopting so-called "primitive styles" like that of the Maori, the Celts, and the *yakuza* of Japan (Atkinson and Young 2001). Members of the Neo Primitive movement are trying to get back to the roots of tattooing and to the traditions associated with the styles (Bell 1999; DeMello 2000; Atkinson and Young 2001). While American tattoos are more image-oriented, primarily literal interpretations of things that typically stand alone (i.e., a lone rose or cross figure), "primitive" tattoos are seen by tattoo communities around the world to be more ritualistic and identity- and

symbol-oriented (DeMello 2000).

The Neo Primitive movement uses the solidarity and group association connected to primitive tattooing to oppose, resist, and separate themselves from what they see as fad and commercial styles of tattooing (Atkinson and Young 2001). For members of this subcultural group, tattooing provides spiritual, emotional, and practical rewards—rewards that are repressed by the overarching societal structure and institutions of the Western world (Rosenblatt 1997; Atkinson and Young 2001). Neo Primitive tattoos are characterized by their supposed tribal lines and shapes that follow the body's natural contours, tattooed in black and red ink. These tattoos are large and often full-body (Atkinson and Young 2001; Camphausen 1997). Neo Primitive tattooees as well as the individuals called tattoo collectors (individuals who aspire to collect tattoos over the entirety of their bodies) seem to draw a line between those who have tattoos and those who are tattooed—the insiders and the outsiders. Those on the inside believe that their tattoos are every bit a part of their self as their eyes or their nose. The Neo Primitive tattooees, tattoo collectors, and the heavily tattooed are the tattooed individuals.

Data Analysis

From the themes, I expected several results:

- Most individuals acquiring tattoos today would be from middle-class families
- Individuals would attach their identities to their tattoo
- The increase in tattoo acquisition would be attached to American consumerist habits
- There would be drastic differences between people with tattoos and tattooed individuals. Tattooed individuals would be those who see the tattoos as another part of their body.

I have categorized the results into two sections: "Meets Expectations" and "Does Not Meet Expectations/Inconclusive" so I can properly analyze the data without limiting aspects that might meet expectations in some ways but in not others, as well as analyze without

separating similar or shared themes.

Meets Expectations: Class, Commodification/Consumerism, and Identity

From the data collected, my results regarding class and commodification/consumerism are consistent with that of the literature, and some parts of the identity theme meets expectations as well.

Through interactions with relatives, friends, and influential persons of the same class who have acquired tattoos and established the tattoo as acceptable, self-identified middle-class individuals are increasingly acquiring tattoos. My informants had families who ate dinner as a family, attended church or religious events together, sent children to college, made children aware of social responsibility, had children who started working at an early age, and readily enjoyed activities and events with a larger extended family. The vast majority of my informants, whether from Graylin, nearby communities, or out of state, declared themselves of the middle class. Of my informants, half of the sixty-seven individuals reported that it was the sight of their relatives' (immediate or extended) tattoos that influenced their own acquisition. Others said that it was the sight and knowledge of their peers' and friend's tattoos that had influence on their acquisition. On average six out of ten informants, both students and professionals, indicated that moving away from their largely conservative parents had a large role in their decision to become tattooed. Those twenty-two who did not have a tattoo expressed a variety of reasons why they did not want or have a tattoo, ranging from the disapproving views of their friends and families to their own belief that tattoos are senseless purchases and unnecessary. A female informant said that none of relatives have tattoos as far as she knew. Her family is "very" Catholic and lives on the east side of the state. Her parents, she asserted, told her that if she ever acquired a tattoo they would stop paying her college tuition and she would no longer receive any type financial assistance from them. They believe that one who acquires a tattoo is defacing and mutilating one's body. She, despite her parents' beliefs

and conditions, would like a tattoo, but will wait until she has a stable career.

Graylin is known for the "conservatism" reported by my informants. Graylin could be considered a bit of an anomaly. Western Michigan, where Graylin is located, is considered by other "Michiganders" to be "very conservative"—conservative mainly revolving around right-winged Evangelical Christian beliefs tied to the strong and continuing Christian Reform Church tradition in the area, as well as Dutch roots in the population. The terms I recorded most often were "influential Dutch reform traditions," "right-wing politics," and "the Christian Reform Church," stressing that "conservative" individuals here did not want to "deviate" from what they believed to be cultural norms. A recently married couple, both raised in the Christian Reform Church on the east side of Graylin, informed me that generations of their families have focused on living the way the Church and God wanted them to live, free of sin and pure of heart. While none of my informants could pinpoint exactly where in the Bible or their religious tradition it says not to tattoo or pierce one's self (although one mentioned Leviticus), a few discussed how it is believed that some piercing is seen as adornment to most people, while tattooing is mutilation, destroying the body God gave one to spread His news and live a righteous life.

Many inferred that the conservative attitude in the area has an influence over the tattoo culture in Graylin for its residents but that the Graylin State University's mixed population also has influence over the continual acquisition. The artists I interviewed as well as most informants stated that they believed most tattooees nowadays are college-aged individuals or college students. The University brings in students from outside areas. For several students who have grown up in the community or grew up in conservative, middle-class households, this mixed interaction has changed their views on tattooing, and they have found confidence in their thoughts of possible acquisition.

I spoke with two young males, G & C, both from nearby communities. One of the young men, G, said that he grew up around tattoos. His uncles, father, aunts,

and cousins all had tattoos and he often went with his relatives and older friends when they were getting work done. He acquired his first tattoos, a large clover on the upper back of his right shoulder and a very detailed moon figure on his front right arm, the year before he started going to Graylin State and told me that he intended on getting several more. His best friend, C, explained before he met G at Graylin State, he thought that tattoos were ridiculous. He did not understand why someone would want to go through any amount of pain just to get a senseless drawing on their skin. After the two students became friends, he started to admire G's tattoos.

One day I asked [G] why he picked those two tattoos out of all the things he could have gotten, and he told me about how his grandfather, father, uncles, and cousins had the same clover tattoo on their backs. He said he couldn't wait to get his first tattoo, to feel like one of the boys. They all have clovers because they're Irish, but it seemed to mean a lot more to him than just that they were Irish. I had always thought that the moon on his arm was pretty awesome too, but now I understand what the moon actually means to him. He loves the night, ya know. He has this badass telescope. Yeah, I started to think about getting one myself, something that symbolizes my music and my five-year relationship with my girlfriend.

I found that commodification data is very much in-line with the most recent research on tattoos, just like the class theme, contending that contemporary acquisition (acquisition in the last eight years) is tied to American unnecessary consumerist habits. Of all the tattoo stories I recorded, evidence points in this direction, especially for first-time tattooees under the age of twenty-five. All four artists I interviewed expressed that I would be amazed at the number of college students that come in just because they are bored. In comparing my own reasons for acquisition I was surprised. These artists state that tattoo acquisi-

tion has become another activity people do to keep themselves entertained.

About eighteen tattooed informants stated that their tattoos were works of art inscribed on their bodies, while ten especially stressed that it was a very casual decision to get their tattoo, that they did not put much thought into the decision, and they just did it with a friend or relative randomly. One artist commented that the reason women get smaller tattoos in hidden places and are more likely to get piercings is because women change their minds often and like to have the ability to change their image with ease. Piercings, for the most part, can be easily and inexpensively removed and closed up. Men are more likely to acquire blatant armbands and detailed animals or drawings because they are slower to change. This particular comment correlates to pop culture fashion and seasonal trends: They change quickly. One trend apparent in the data is the fact that many of my college-aged informants went to get their tattoos in a group. It appeared that if these individuals did not have a decision made, a design and such picked out, the group or the other individuals had a considerable influence in all aspects of the acquisition, placement, size, and design.

A recent graduate of Michigan State University and new resident of Graylin told me that he considers his lizard tattoos art, like the art work one would purchase at a gallery. However, the words “Out, Never In” on his butt were acquired for just for fun with his fraternity brothers. The study definitely illustrates through vocal opinions and subtle mention that residents and students alike often acquired tattoos for aesthetic, decorative, and maybe even fashion-related reasons.

When it comes to identity, my informants did often directly and indirectly express how their tattoo is a symbol of independence and freedom, yet very few of my sixty-seven informants mentioned anything about identity or a self-established and proclaimed identity. Although this idea of a separate, self-cultivated identity was dominate in the literature, independence was also another factor in the identity theme, and it was the idea of independence that was more consistent with the expectations. I asked my infor-

ants why they themselves acquired the tattoo(s) and/or why they believed one would acquire a tattoo. To quote one of my artist informants, “People get inked for decorative reasons. It’s like buying a dress for some. For others, people who come in with their own designs, mostly it’s more special. It separates them.” The later part of the quote is evidence that connects the decision to acquire more to independence than to a desire to form a completely new identity. I was told by nine of my tattooed informants that the actual acquisition made them feel like it was one of first times they were really making their own decision.

Does Not Meet Expectations/ Inconclusive

There was not a great deal of data that matched the literature expectations for the identity theme. Very few informants directly or indirectly mentioned the word identity or discussed the idea of acquiring a tattoo to construct a unique and separate self, one that is separate from past beliefs, traditions, values, and institutions. Those who did indicate that they acquired a tattoo to express their identity linked this identity to a group and never talked about the tattoo as an expression of uniqueness. The instances I did hear a tattoo being an outright symbol of an identity were related to sexuality or group association. For example, three of my informants used their tattoos to express that they were openly part of the lesbian community. One female explained that her snowflake tattoo symbolizes the day she came out to her parents and her solidarity with her fellow lesbians and friends. Quoting another of my informants, “As a Marine, I got my tattoo with my buddies, members of my company, my brothers.”

Finally, in examining the idea of tattooed individuals, my data are currently inconclusive. My pool of informants and my time restriction limited the amount of data I collected in association with the culture-subculture theme. Only six of my informants had multiple large tattoos covering a particular area of their bodies, and four of these individuals were tattoo artists. Of these four individuals in particular, one told me that

most people only see maybe 5 percent of tattoo culture, and because of the size and atmosphere of Graylin, its residents see and know even less. He also mentioned that the heavily tattooed and tattoo artists comprise a community because they share a unique connection and appreciation for tattooing. The two artists at the west side location stated that they believed they were a part of a subcultural group consisting of individuals who hang out at tattoo and piercing studios, heavily tattooed individuals, and individuals who “collect” tattoos like the literature’s tattoo collectors and tattoo artists. These individuals value tattooing for separate reasons, but it is a genuine appreciation and shared interest that unites them.

The other two artists did not believe they were members of a subcultural group, but stated that they believed such groups existed according to the style, size of an individual’s tattoo(s), and the meaning they ascribe to it/them. Other than the four artists, the two individuals (both males) who had large tattoos noted that once they acquired larger tattoos they were lumped into a category with similarly tattooed individuals. One of the informants had two tattoo sleeves (an arm completely covered with tattoos), and the other’s back and left arm were completely covered. Together, we discussed how—often when their tattoo-covered body parts were exposed to the general public (at the gym, beach, doctor’s office, and the like)—they felt a bit of alienation or like they were a spectacle. When people were not staring, they were asking these individuals questions, such as, “Didn’t that hurt?” and “How long did take to get that done, and why did you get a that tattoo?” With the exception of their families and friends, these two informants felt the most comfortable in the presence of those who have similar tattoo work done. Individuals with tattoo sleeves, full back pieces, or a full bodysuit understood what it meant to acquire something that separated an individual from conventional society even if they had differing reasons for acquiring their tattoos. Essentially, the tattooee may not separate him- or herself or indicate that he or she is a member of a subcultural group, but as a result of his or her particular acquisition

may be categorized or placed in one.

Conclusion

Although this preliminary study is still in the early stages, the data show considerable consistencies with the class and commodification expectations of the literature. The current identity results are a bit inconsistent with expectations because, while informants often expressed how their tattoo is a symbol of independence and freedom, they rarely discussed how their tattoos provided them with a new identity. Again, because of time restrictions and my limited pool of informants, the culture-subculture results are currently inconclusive. Further investigation is certainly needed with regards to all four themes, especially the culture-subculture themes, but the current results do shed a bit of light on what I might find through continued examination. The most important aspect of this preliminary exploration is that I have begun tattoo acquisition research in an area and region previously unstudied. This study has allowed me to take the first steps in understanding not only the factors or influences that drive the increase in tattoo acquisition today, but also in understanding how the Midwest affects or is affected by cultural transmission. It is a land between two major cultural metropolises, and as a result trends seem to be imported into the Midwest, but rarely exported. As I continue with my research, I am left with this question, "What will it take for the Midwest to be at the cutting edge of trend?"

Because this investigation is still in its early stages, it is important to point out that a larger sample of informants might elicit contrasting results. It is also necessary to emphasize the complexity of human reasoning. Although the literature divides tattoo acquisition into simpler themes and categories, things are definitely not black and white. Often influence and logic behind the acquisition of a tattoo is linked to aspects of class, identity, consumerism, and culture-subculture. These themes are certainly not mutually exclusive. In further investigation, I would like to be able to interview more artists and attend a tattoo convention. I think my preliminary data for

culture-subculture was incredibly limited by my inability to talk with individuals who had larger tattoos and spend sufficient time in multiple tattoo studios. My questions, like my sample size, should also broaden so that I may further discuss topics like sexuality, religion, gender, and workplace acceptability.

Although it has only been a preliminary study, I have also enjoyed the ability to analyze my own acquisition as I learned more about Graylin and tattooing through my informants' perspectives and opinions. Although I still assert that my acquisition is the result of independent consideration and personal beliefs, I note that because of commodification of the tattoo in the late eight years tattooing was an option for me. If tattooing was not as popular or accepted as it is today in my age group or in my social circles, I may not have acquired a tattoo. I am proud of my tattoo and I do not try to purposefully hide it. However, I wonder if I would have been as proud of my tattoo thirty years or even ten years earlier, and if one act of tattoo acquisition for a mixed-race, middle-class female would have been completely disgraceful and unacceptable.

My parents accept what I have done but would not necessarily approve of another tattoo, and they certainly do not believe it would be appropriate for my fifteen-year-old sister to acquire one. Yet they respect my rights as an adult and ask only that I be "tasteful" in my actions and consider my future. Some of my friends' parents have accepted tattooing in general, perhaps due to my acquisition or to their own interactions with more and more individuals with tattoos, while others have simply accepted my acquisition but still disapprove of tattooing overall. With the research I have done, I feel as though the tide is changing with regards to tattooing even in conservative areas like Graylin. This acceptability is a trend that appears to be moving through the Midwest.

Appendix 1. (Figure 1)

General Survey

“Exploring Permanent Property” Grand Valley State University

You are being asked to take part in this survey because either you have a tattoo or multiple tattoos, or your experience, knowledge, opinion, or perspective on American culture as well as tattoos is needed to explore and learn more about the research concept. No identification (name, address, area code, age, etc.) whatever is needed for research purposes and need not be provided. Your opinions will not be judged or seen by anyone other than the researcher, Tiffany Cross. If you have any additional questions or concerns, would like to request a copy of the final manuscript or see what has been done with the information you provided, please contact the researcher at

Note: This symbol (*) means these questions are for individuals with tattoos.

1. Is it appropriate to have any type of body art/modification (piercing, tattoos facial implants, henna, etc)?
 - a) What do you consider appropriate in terms of body art/modification?
 - b) What do you consider to be extreme in terms of body art or modification?
2. What do you think is appropriate (size, location, design) for tattoos specifically?
3. What are your thoughts on tattoos in American culture today? (Tattoos in everyday life or in the media).
4. Why do you think people get tattoos?
5. Who was the first person you can remember having a tattoo?
6. Do you have, currently want, or at one time want a tattoo or tattoos?
 - a) If you have a tattoo (s) so, why did you decide to get a tattoo(s)?
 - b) If you want a tattoo, are you getting one soon and/or what has prevented you from already acquiring one?
 - c) If you do not want one, why? Do any of your family members or friends have tattoos?
7. *If you have or want a tattoo, how did you decide on the color, placement, design, and size of your tattoo(s)?
8. *[Answer yes or no and then pick and describe location]
Did you get your tattoo in one of the following: Western Michigan, in the state of Michigan, or in the Midwest?
 - a) If so, which one and where was this studio located? What did look like and why did you pick it.
 - b) If not in the Midwest, where did you get your tattoo(s) done?

References

- Atkinson, Michael. 2004. Tattooing and civilizing processes: Body modification as self-control. *Canadian Review of Sociology and Anthropology* 41, no. 2: 125-42.
- Atkinson, Michael, and Kevin Young. 2001. Flesh journeys: Neo Primitives and the contemporary rediscovery of radical body modification. *Deviant Behavior* 22: 117-46.
- Bell, Shannon. 1999. Tattooed: A participant observer's exploration of meaning. *Journal of American Culture* 22, no. 2: 53-8.
- Braunberger, Christine. 2000. Revolting bodies: The monster beauty of tattooed women. *NWSA Journal* 12, no. 2: 1-23.
- DeMello, Mary. 2000. *Bodies of inscription: A cultural history of the modern tattoo community*. Durham, NC: Duke University Press.
- Feathersome, Mike. 1999. Body modification: An introduction. *Body & Society* 5, no. 2-3: 1-13.
- Hochschild, Jennifer L. 1995. *Facing up to the American dream: Race, class, and the soul of a nation*. Princeton, NJ: Princeton University Press.
- Irwin, Katherine. 2001. Legitimizing the first tattoo: Moral passage through informal interaction. *Symbolic Interaction* 24, no.1: 49-73.
- Kang, Miliann, and Katherine Jones. 2007. Why do people get tattoos? *American Sociological Association* 6, no. 1: 42-7.
- Kosut, Mary. 2006. An ironic fad: The commodification and consumption of tattoos. *The Journal of Popular Culture* 39, no. 6: 1035-46.
- Sanders, Clinton. 1989. *Customizing the body: The art and culture of tattooing*. Philadelphia, PA: Temple University Press.
- Sweetman, Paul. 1999. Anchoring the (postmodern) self? Body modification, fashion and identity. *Body & Society* 5, no. 2-3: 51-76.
- Thomas, Nicholas, Anne Cole, and Bronwen Douglas. 2005. *Tattoo: Bodies, art, and exchange in the Pacific and the West - History of tattooing*. Durham, NC: Duke University Press.
- Wohlrab, Silke, Jutta Stahl, and Peter M. Kapperler. 2007. Modifying the body: Motivations for getting tattooed and pierced. *Body Image* 4, no. 1: 87-95.
- Vail, D. Angus. 1999. Tattoos are like potato chips ... you can't have just one: The process and being a collector. *Deviant Behavior* 20, no. 3: 253-73.

Apatite Fission-Track Thermochronology, Northern Range, Trinidad (and Paria Peninsula, Venezuela)



Chris W. Denison
McNair Scholar



John C. Weber, Ph.D.
Faculty Mentor

Abstract

The Northern Range of Trinidad is an east-west trending mountainous exposure of metamorphic rocks located in the Caribbean-South American plate boundary zone. With a maximum elevation of ~1km, the Northern Range is the only place in Trinidad where metamorphic rocks have been exhumed to the surface. Prior to ca. 10 Ma the Caribbean plate was obliquely converging relative to the South American plate and began creating the geologically young mountains that we see today. However, ca. 5-10 Ma, the Caribbean plate shifted from oblique convergence to dextral shearing (strike-slip faulting), and near Trinidad is currently moving at ~20mm/year toward N86°E ± 2° with respect to the South American plate. Using apatite fission-track methods, we test whether the Northern Range rocks were exhumed before or after this shift in plate motion to better understand the processes by which they were exhumed (unburied). Samples were collected over the past decade, and then the fission-track analysis was performed at Apatite to Zircon Inc. in the summer of 2008. We studied apatite fission tracks in fifteen samples: fourteen from the Northern Range, and one from the Paria Peninsula in Venezuela. All samples gave reset fission-track ages, between ~4 Ma and ~20 Ma. We recognize a spatial pattern in the ages: older fission-track ages (ca. 13 to 18 Ma) are located in the eastern Northern Range and younger fission-track ages (ca. 5 to 6 Ma) are located in the western Northern Range. The younger fission-track ages in the western Northern Range postdate oblique convergence of the Caribbean plate motion relative to South America. The older fission-track ages in the east predate the shift in plate motion. Inverse modeling using the HeFTy program also shows that exhumation occurred at a faster rate (ca. 15°C/m.y.) in the west than in the east (ca. 5°C/m.y.). Our interpretation is that a thick, buoyant crustal root is

present in the western Northern Range and this resulted in isostatic uplift and associated erosion, exhuming rocks of the western rocks long after oblique convergence (transpression) shut off.

1. Introduction

The Northern Range (NR) of Trinidad is a geologically young, east-to-west-oriented belt of mountains made up of exhumed (unburied) metamorphic rocks that is located in the Caribbean-South American plate boundary zone (Fig. 1). This belt continues to the west as the Cordillera de la Costa, Paria Peninsula, Venezuela (Cruz et al., 2007). Currently, the Caribbean plate slides past the South American plate near Trinidad at ~20mm/year toward N86°E ± 2° (Weber et al., 2001a). Based on the regional geology, Pindell et al. (1998) suggested that oblique convergence occurred between these two plates prior to 10 Ma. Our study aims to test whether the Northern Range metamorphic rocks were exhumed during the early period of oblique convergence or more recently during post-10 Ma transform motion. In general the thickening that accompanies convergence and shortening produces tall mountains that get buoyed up by deep crustal roots. Crustal roots, once formed, wear away very slowly via erosion off the top of the mountains and once formed, crustal roots can buoy up modest topography long after crustal thickening occurred.

We present a study of the thermal history (thermochronology) of the Northern Range rocks using apatite fission-track methods. Samples were collected over the past decade (by JW) as part of a long-term study of the Northern Range and Paria Peninsula (e.g. Weber et al., 2001b; Cruz et al., 2007). Our apatite fission-track analysis was done at Apatite to Zircon Inc., Viola, Idaho (supervised by RD), with one of us (CD) working as a visiting student researcher, learning and assisting with the mineral separation. Fission tracks were studied for fifteen samples: fourteen from the Northern

Range, Trinidad, and one sample from the Paria Peninsula in Venezuela (PP – 022).

Rock uplift is a term that describes the movement of rocks toward the Earth's surface (Platt, 1993). *Surface uplift* refers to the upward movement of the Earth's surface. Finally, the term *exhumation* refers to the unburial of rocks. Exhumation occurs only when rock uplift is greater than surface uplift (England and Molnar, 1990; Ring et al., 1999), and is in fact the difference between these two values (i.e. $\text{exhumation} = \text{rock uplift} - \text{surface uplift}$). Here, we study the timing and rates of exhumation across the Northern Range to test whether there are east-to-west differences in exhumation rates and magnitudes across the range, and to assess whether and how metamorphic rock unburial is related to the plate tectonic scenario discussed above.

We determined that Northern Range apatite fission tracks were reset during the Neogene, between ~4 Ma and ~20 Ma, dating their passage through ~120°C. We also recognize a spatial apatite fission-track pattern within the range: younger fission-track ages (ca. 5 to 6 Ma) are located in the west; older fission-track ages (ca. 13 to 18 Ma) are located in the east. Rates at which rocks were exhumed also differ between ~15°C/m.y. in the west to ~5°C/m.y. in the east. We question whether these changes occur along a fault or are gradual.

2. Apatite fission-track thermochronology methods

Fission tracks are micrometer-sized damage zones of a crystal lattice caused by the spontaneous nuclear fission of the isotope ^{238}U (Fig. 2). Nuclear fission is a process in which a heavy, unstable nucleus splits into smaller fragments that are energetically ejected. Spontaneous fission is a naturally occurring process in heavy nuclides (atomic mass > 230). Minerals such as apatite contain enough ^{238}U and crystalline lattice to make them a perfect media for spontaneous nuclear fission that leaves a permanent record (Tagami and O'Sullivan, 2005). Fission-track analysis is most commonly performed on minerals of apatite and zircon, but may in principle be performed on

any uranium-bearing minerals. Analysis requires a dual measurement of fission-track age and track length (Barbarland et al., 2003). Fission-track ages reflect the concentration of uranium within samples, the number of tracks present per unit area, and the amount of time given for the tracks to accumulate. Track length is important for understanding rock time-temperature histories (Barbarland et al., 2003). Chlorine content is another important parameter to measure because it exerts significant control on track annealing rates.

Thermochronology is the use of radio-isotopic dating to constrain the thermal history of rocks and minerals. Over the past few decades apatite fission-track analysis has become an important tool to constrain the low-temperature (<120°C) thermal histories of igneous, metamorphic, and sedimentary rocks in a wide range of geological settings (Donelick et al., 2005). Within particular settings, distinct thermal histories occur. The types of geologic problems that can be addressed include: measuring timing and rates of uplift and exhumation, timing and rates of tectonic events, absolute age dating of volcanic deposits, and long-term landscape evolution (Donelick et al., 2005).

Once the uranium concentration of a sample is determined, the spontaneous fission-track density in that sample is an indication of the time that the sample crystallized or cooled through its closure temperature; this has been fairly confidently estimated to be $100 \pm 20^\circ\text{C}$ for apatite (Wagner and Van den Haute, 1992; Donelick et al., 2005; Weber et al., 2001; Cruz et al., 2007), but does depend on cooling rate (Bruhn et al., 2005). With temperatures elevated to $>100 \pm 20^\circ\text{C}$ apatite fission tracks begin to anneal by shortening until they exceed their closure temperature, when the tracks are reset and disappear completely (Bernet and Spiegel, 2004; Tagami and O'Sullivan, 2005). Annealing temperatures vary depending on the minerals involved, and fission tracks in apatite anneal between the temperatures of 120 and 60°C. The temperature region between 120 and 60°C is referred to as the partial annealing zone (PAZ) for apatite (Donelick et al., 2005). The simplest

interpretation of a single apatite fission-track age is that it represents a single point in the upward journey of a sample as it is exhumed to the surface.

3. Apatite fission-track analysis

3.1. Mineral separation procedures

The methods used and described here are explained in greater detail in Donelick (2005). Minerals were first disaggregated by crushing the rock into sand-sized grains. The most effective way to do this is by first breaking a large sample with a rock-crusher or hammer, then running the sample through a jaw-crusher (Fig. 3a) several times until sand-sized sediment is obtained. Next, the sand-sized particles were sieved through a 300 micron cloth (Figs. 3b,c) leaving the <300 micron sediment for further density separation.

After crushing the rocks and sieving the sediment, the fine <300 micron material was washed using a wash bucket and regular tap water (Fig. 3d). The purpose of this step is to wash out most of the fine mud and clay particles. This was done by placing the material into the wash bucket and rinsing with tap water, followed by decanting off the muddy water. Washing was repeated as many times as needed until the water was clear. After all of the fine particles were removed, we decanted one final time and emptied the remaining coarse sediment into an aluminum pan, where it was stored in a safe environment and left to dry overnight.

The next mineral separation used heavy liquid separation, specifically an inorganic compound called lithium metatungstate (LMT). The LMT has a SG of 3.0 g/cm³ and apatite has a specific gravity between 3.15-3.20 g/cm³. The common minerals found in high abundance in most rocks, e.g. feldspars and quartz, have specific gravities less than 3.0 g/cm³. Equal amounts of sediment and LMT (Fig. 3e) were mixed into two beakers and stirred to loosen and mix the material. Then, the mixture was centrifuged at 2,000 rpm (Fig. 3f). After centrifuging the first time, we stirred the top half of the mixture and centrifuged again to make sure that materials were properly separated. After centrifuging, the light minerals (SG<3.0, e.g. quartz &

feldspar) sat on the surface of the mixture and the heavy minerals (SG>3.0, e.g. apatite) settled to the bottom. We then decanted off the light minerals and rinsed the heavies with distilled water several times. Finally, we emptied the remaining mineral grains into a small Petri dish and let them dry (Fig. 3g). Using a binocular microscope the remaining mineral grains were assessed for the amount and quality of apatite present.

Our final mineral separation used magnetic separation methods. We used a Frantz Isodynamic magnetic separator (Fig. 3h) and split the magnetic minerals from the nonmagnetic minerals. After separation, the nonmagnetic grains, including apatite, were set into an epoxy-only, polished grain mount (Fig. 3i).

3.2. Track length & age-measuring procedures

After the apatite grains were mounted and polished, the mounts were etched. Etching the polished surfaces of the mineral grain revealed spontaneous fission tracks in the crystals, providing accessibility for optical observations—counting and track length measurements. Tracks were enhanced by chemically etching the polished slide in 5.5 N HNO₃ at 21°C for 20s (Donelick et al., 2005; Jonckheere et al., 2007). Once etched, the mounts were placed under a high-powered >1000 X magnification microscope, where fission tracks were located and counted. With the additional use of a computer and a digitizer (Fig. 3j), the locations of the individual grains within the mount were recorded and saved to an external disk. When the grain mount is later placed under the laser ablation microprobe attached to an inductively coupled plasma spectrometer (LA-ICP-MS) (Fig. 3k), these coordinates are uploaded into a computer so that the grains can be easily found by the microprobe. The microprobe needs to know the exact coordinates of each grain within the mount so that it can accurately measure the concentration of Uranium, which is then used to calculate the age of the sample (Cox et al., 2000). The basic equation used to calculate the fission-track age is written:

$$t = \frac{1}{\lambda_D} \ln \left(\frac{\lambda_D}{\lambda_f} \frac{N_s}{^{238}\text{U}} + 1 \right)$$

where N_s is the number of spontaneous fission tracks present in the sample, ^{238}U is the number of ^{238}U atoms in the sample, λ_D is the total decay constant for ^{238}U , and λ_f is the spontaneous-fission decay constant for ^{238}U (Bruhn et al., 2006).

The next procedure used was Californium-252 radiation (Fig. 3l). ^{252}Cf is a very strong neutron emitter, releasing 170 million neutrons per minute. Grain mounts are placed in a vacuum chamber, beneath a ^{252}Cf source where they are bombarded with neutrons. The purpose of the technique is to re-etch the spontaneous fission tracks, which enhances the number of fission tracks available for length measurement, and to create induced tracks.

4. Track length Modeling

Once track length distributions and ages were determined, these data were analyzed using a forward modeling program called HeFTy (<http://www.geo.utexas.edu/scientist/ketcham.htm>). The purpose of this step is to create theoretical annealing models that give a range of acceptable time-temperature histories and a best-fit history. We use starting constraints of 20°C surface temperatures, and 150 – 67 Ma depositional ages of to calibrate the HeFTy model parameters.

5. Results

Our new sample locations and apatite fission-track age results are given in Figure 5 and Table 1. Ages are given with two sigma ($\pm 2\sigma$) uncertainties. Apatite fission-track ages from fifteen samples are shown, with two of the samples used as a composite (T-97-MACQ1+2), and one from the Paria Peninsula, Venezuela (PP – 022). All samples yielded fission-track ages between ~4 and ~20 Ma, dating their upward passage through ~120°C. We recognize a spatial pattern in the ages obtained, with younger fission-track ages (ca. 5 to 6 Ma) in the west and older fission-track ages (ca. 13 to 18 Ma) in the east. Our single sample from Paria Peninsula, Venezuela, yielded an apatite fission-track age of 20.3 ± 1.3 Ma.

Figure 6 compares the relationship

between east-west sample location using local Universal Transverse Mercator (UTM) coordinates in meters and fission-track age in Ma. UTM sample coordinates are given by eastings (east-west) and northings (north-south), both of which have a precision of \pm a few meters. The black trend line shows the two groupings of fission-track ages and how they change across the range. The few samples that had extremely poor apatite yields show the largest uncertainties (e.g. RCS 91-6 and M2). In the west, fission-track ages are < 10 Ma. In the east (ca. >716000 easting) fission-track ages are > 10 Ma. The break in ages (at ca. 716000 easting) is a sharp thermal discontinuity that may represent a fault or exhumed isotherm.

Results from HeFTy model runs are shown in Figure 7; we use these to compare time-temperature histories for representative samples from the western and eastern Northern Range. The lightly shaded area in the plots represents “acceptable fits” and the dark shaded areas shows “good fits.” The heavy dark lines represent the “best fit” time-temperature histories.

The modeled time-temperature history for samples in the western Northern Range (Figs. 7a,b) illustrates rapid exhumation prior to 10 Ma. Figure 7a (T-97-Macq-1&2; our composite sample) shows that starting at ~100°C this rock cooled to 20°C at a rate of ~15°C/m.y. The sample has a calculated fission-track age of 4.97 ± 2.49 Ma. Figure 7b (sample WM-1) shows a similar cooling history, with a rate of exhumation ~15°C/m.y. and a calculated fission-track age of 5.45 ± 1.42 Ma. Difference between the modeled histories for the two samples is that HeFTy was able to model a longer, clearer history for WM-1 than for T-97-Macq1&2.

Time-temperature models for example eastern samples are given in Figures 7c and 7d. Figure 7c illustrates that sample T-97-TOC-1 reached its annealing temperature (120°C) at ~19 Ma. By the time this sample reached surface temperatures (20°C), cooling rates completely leveled out and the sample is modeled to have sat at surface conditions for the next ~7m.y. The calculated/modeled age of T-97-TOC-1 is 16.6 ± 5.5 m.y. Figure

7d illustrates that sample T-97-TB-253 reached its annealing temperature at ~15 Ma and was exhumed to ~30°C at a rate of ~10°C/m.y. At this point in its journey the rate of exhumation decreased to ~1.1°C/m.y. Sample T-97-TB-253 has a calculated age of 13.7 ± 4.0 m.y.

6. Discussion and conclusions

Fission-track ages in the Northern Range of Trinidad generally increase from west-to-east. This pattern is not necessarily expected based on the general west-to-east migration of the Caribbean plate relative to South America. An eastward-younging fission-track age distribution might be expected instead (Cruz et al., 2007). Furthermore, a major question arises regarding how only plate tectonic processes could drive exhumation in the region. Most of our fission-track ages postdate the aforementioned ~10 Ma shift from oblique plate convergence to dextral shearing in Caribbean plate motion. Pure lateral shearing alone can not account for the exhumation of metamorphic rocks (Platt, 1993; Ring et al., 1999). This argument, together with our results, allow us to rule out plate tectonics as the sole driving force for the exhumation. We conclude that the exhumation of metamorphic rock in the western Northern Range is the result of surface erosion that was coupled to a buoyant crustal root that formed during pre-10 Ma oblique convergence and resulted in long-lived isostatic and erosional exhumation (Cruz et al., 2007).

A significant difference also exists between the time-temperature histories for the two regions (Fig. 7). The eastern samples have old fission-track ages and rates of exhumation that slowed down significantly at about 10 Ma, and samples in the east were essentially exhumed by 9-10 Ma. Samples from the west show rapid exhumation over the entire post-10 Ma period. We conclude that a well-developed crustal root is present beneath the western Northern Range and has buoyed up this part of the range well after the pre-10 Ma phase of oblique plate convergence (and transpression) ended. On the other hand, the eastern Northern Range probably has a less well-developed (thinner) crustal root, and

exhumation there seems to have stopped when oblique plate convergence stopped.

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References Cited

- Apatite Fission-Track Analysis. *Fission Track Analysis*. 3 Mar. 2008. http://faculty.plattsburgh.edu/mary.rodentice/research/Fission_Track.html
- Barbarand, J., Hurford, T., Carter, A., 2003. Variation in apatite fission-track length measurement: implications for thermal history modeling. *Chemical Geology* 198, p. 77-106.
- Bernet, M., and Spiegel, C., 2004. Introduction: Detrital Thermochronology. Geological Society of America Special Paper 378, p. 1-6.
- Braun, J., Van Der Beek, P., and Batt, G., 2006. Quantitative Thermochronology: Numerical Methods for the Interpretation of Thermochronological Data. Cambridge, New York: pp. 258.
- Cruz, L., Fayon, A., Teyssier, C., and Weber, J., 2007. Exhumation and deformation processes in transpressional orogens: The Venezuelan Paria Peninsula, SE Caribbean-South American plate boundary. The Geological Society of America Special Paper 434, p. 149-163.
- Donelick, R.A., O'Sullivan, P.B., and Ketcham, R.A., 2005. Apatite Fission-Track Analysis, in Reiners, P.W., and Ehlers, T.A., eds., Low Temperature Thermochronology: Techniques, Interpretations, and Applications: Reviews in Mineralogy and Geochemistry, v. 58, p. 49-94.
- England, P., and Molnar, P., 1990. Surface uplift, uplift of rocks, and exhumation of rocks. *Geology*, v. 18, p. 1173-1177.
- Jonckheere, R., Enkelmann, E., Min, M., Trautmann, C., and Ratschbacher, L., 2007. Confined fission tracks in ion-irradiated and step-etched prismatic sections of Durango apatite. *Chemical Geology* 242, p. 202-217.
- Ketcham, R.A., 2005. Forward and Inverse Modeling of Low-Temperature Thermochronometry Data, in Reiners, P.W., and Ehlers, T.A., eds., Low Temperature Thermochronology: Techniques, Interpretations, and Applications: Reviews in Mineralogy and Geochemistry, v. 58, p. 275-314.
- Ketcham, R.A., University of Texas. *Geologic Science Directory*. 26 Sept. 2008. <http://www.geo.utexas.edu/scientist/ketcham.htm>
- Pindell, J., Higgs, R., and Dewey, J., 1998. Cenozoic palinspastic reconstruction, paleogeographic evolution, and hydrocarbon setting of the northern margin of South America, in Pindell, J., and Drake, C., eds., Paleogeographic Evolution and Non-Glacial Eustasy, Northern South America, SEPM Special Publication 58.
- Minnesota State University Mankato. *Fission Track*. 3 Mar. 2008. http://www.mnsu.edu/emuseum/archaeology/dating/dat_fission.html
- Platt, J.P., 1993. Exhumation of high-pressure rocks: a review of concepts and processes. *Terra Nova*, 5, p. 119-133.
- Ring, U., Brandon, M.T., Willett, S.D., and Lister, G.S., 1999. Exhumation processes. In: Ring, U., Brandon, M.T., Lister, G.S., and Willett, S.D. (eds) Exhumation Processes: Normal Faulting, Ductile Flow and Erosion. Geological Society, London, Special Publications, 154, 1-27.
- Tagami, T., and O'Sullivan, P.B., 2005. Fundamentals of Fission-Track Thermochronology, in Reiners, P.W., and Ehlers, T.A., eds., Low Temperature Thermochronology: Techniques, Interpretations, and Applications: Reviews in Mineralogy and Geochemistry, v. 58, p. 19-47.
- Wagner, G.A., Van den Haute, R., 1992. Fission track dating: Dordrecht, Kluwer Academic Publishers, p. 1-285.
- Washington State University in St. Louis. *Department of Earth and Planetary Science*. 29 Sept. 2008. <http://epsc.wustl.edu/geo-chronology/frantz.htm>
- Weber, J., Ferril, D., and Roden-Rice, M., 2001. Calcite and Quartz microstructural geothermometry of low-grade metasedimentary rocks, Northern Range, Trinidad: *Journal of Structural Geology* 23, p. 93-112.
- Weber, J., Poulos, C., Donelick, R., Pope, M., and Heller, N. 2005. The Kentland Impact Crater, Indiana (USA): An Apatite Fission-

Additional References

- Cox, R., Kosler, J., Sylvester, P., and Hodych, J., 2000. Apatite Fission-Track (FT) Dating by LAM-ICP-MS Analysis. *Journal of Conference Abstracts*. Vol. 5(2), p. 322.
- Ehlers, T.A., 2005. Crustal Thermal Processes and the Interpretation of Thermochronometer Data, *in* Reiners, P.W., and Ehlers, T.A., eds., *Low Temperature Thermochronology: Techniques, Interpretations, and Applications: Reviews in Mineralogy and Geochemistry*, v. 58, p. 316-350.
- Fitzgerald, P., Stump, E., and Redfield, T., 1993. Late Cenozoic Uplift of Denali and Its Relation to Relative Plate Motion and Fault Morphology. *Science*, 259, p. 497-499.
- Gallagher, K., Stephenson, J., Brown, R., Holmes, C., and Fitzgerald, P., 2005. Low temperature thermochronology and modeling strategies for multiple samples 1: Vertical profiles. *Earth and Planetary Science Letters* 237, p. 193-208.
- Reiners, P.W., Ehlers, T.A., and Zeitler, P.K., 2005. Past, Present, and Future of Thermochronology, *in* Reiners, P.W., and Ehlers, T.A., eds., *Low Temperature Thermochronology: Techniques, Interpretations, and Applications: Reviews in Mineralogy and Geochemistry*, v. 58, p. 1-18.
- Spotila, J.A., 2005. Applications of Low-Temperature Thermochronometry to Quantification of Recent Exhumation in Mountain Belts, *in* Reiners, P.W., and Ehlers, T.A., eds., *Low Temperature Thermochronology: Techniques, Interpretations, and Applications: Reviews in Mineralogy and Geochemistry*, v. 58, p. 449-466.
- Turner, F.J., and Weiss, L.E., 1963. *Structural analysis of metamorphic tectonites*. McGraw Hill, New York, p. 545.
- Yamada, R., Yoshioka, T., Watanabe, K., Tagami, T., Nakamura, H., Hashimoto, T., and Nishimura, S., 1998. Comparison of experimental techniques to increase the number of measurable confined fission tracks in zircon. *Chemical Geology* 149, p. 99-107.

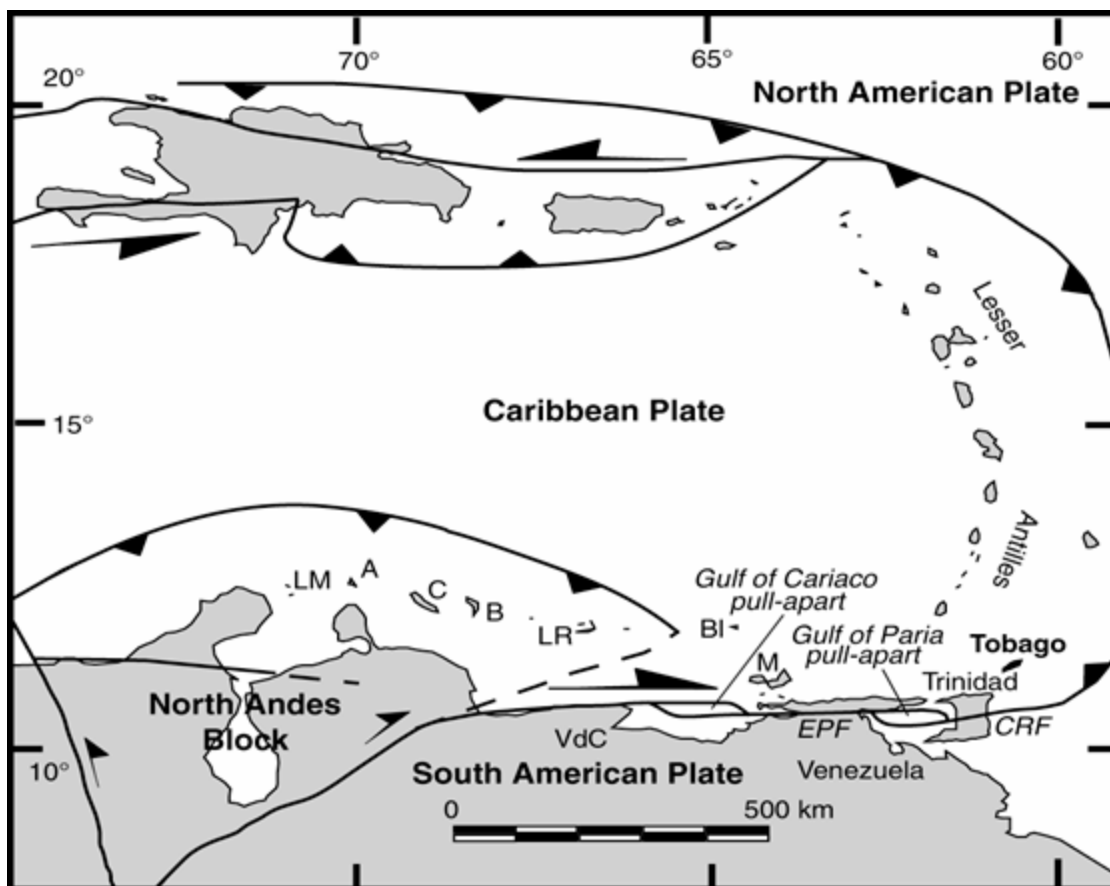


Figure 1. Map showing the location of the North American, Caribbean, and South American plates, and the island of Trinidad. Currently, the Caribbean plate moves ~ eastward at a rate of ~20mm/year relative to the South American plate.



Figure 2a. Etched spontaneous fission tracks within an apatite crystal.
<http://www.geotrack.com.au/afta-overview.htm>

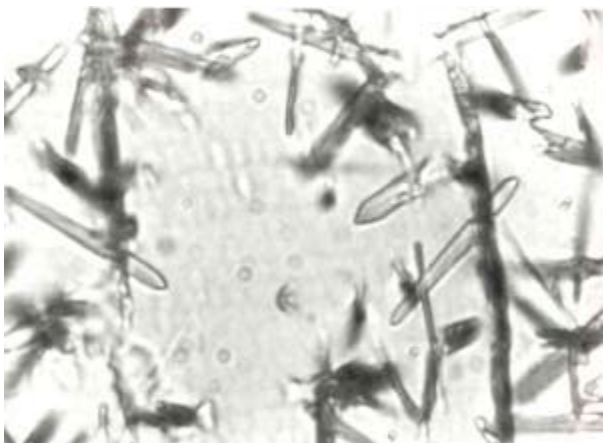
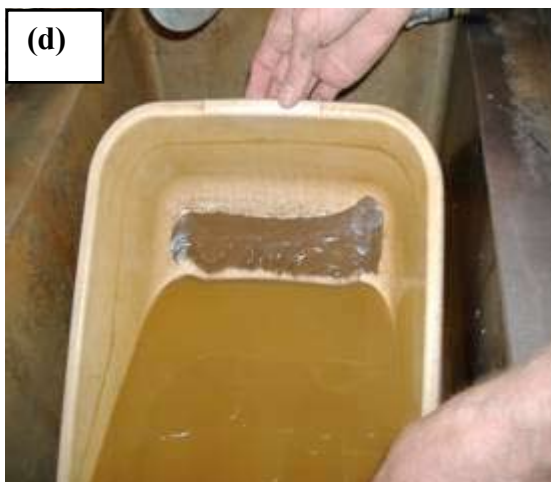
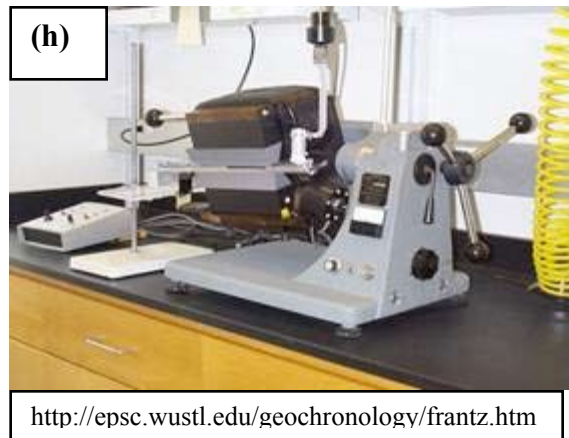


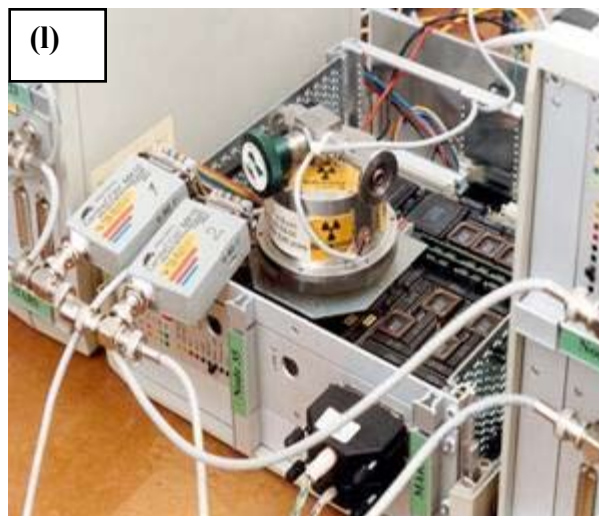
Figure 2b. Etched spontaneous fission tracks within an apatite crystal.
http://faculty.plattsburgh.edu/mary.rodentice/research/Fission_Track.html



Figures 3a-f. Mineral separation procedures. (a) Jaw crusher used to crush samples. (b) 300 micron sieve cloth. (c) Sieved material ≤ 300 microns. (d) Washing the fine-grain mud and clay particles. (e) Heavy mineral separation using lithium metatungstate (LMT). (f) Centrifuge.



<http://epsc.wustl.edu/geochronology/frantz.htm>



Figures 3g-l. (g) After centrifuging and rinsing, air drying the remaining sediment in a small Petri dish. (h) Frantz Isodynamic magnetic separator. (i) Grain mounts that used epoxy-only. (j) High power microscope, coordinate system digitizer, and computer. (k) LA-ICP-MS. (l) Californium-252 source.

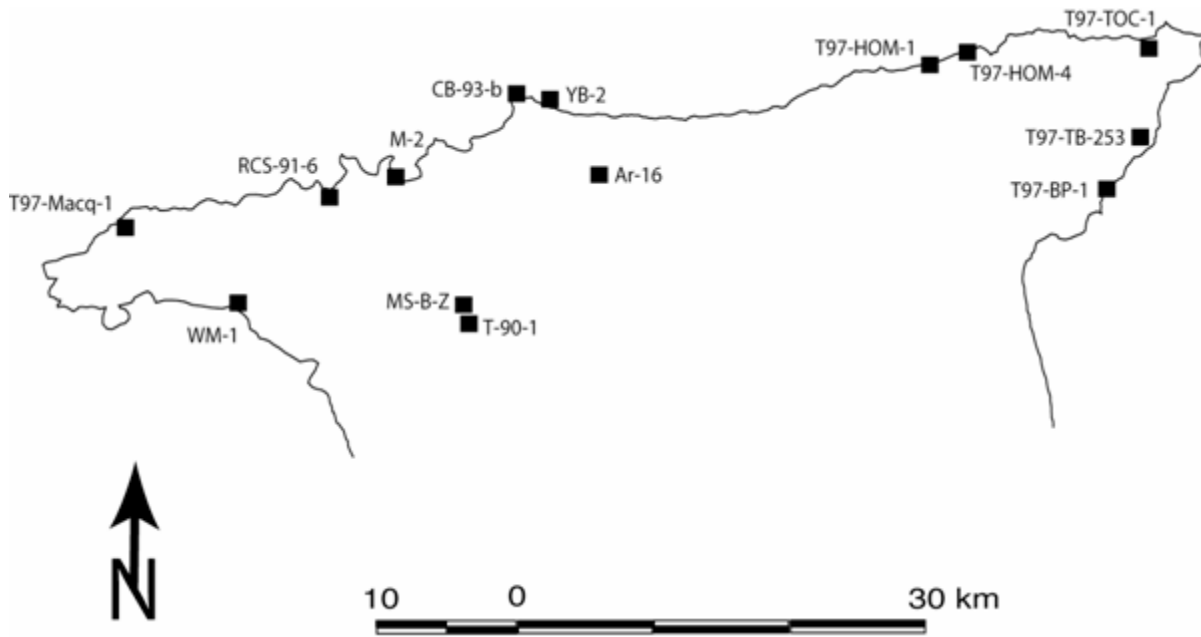


Figure 5. Map of Northern Range, Trinidad, showing the locations of samples used in this study.

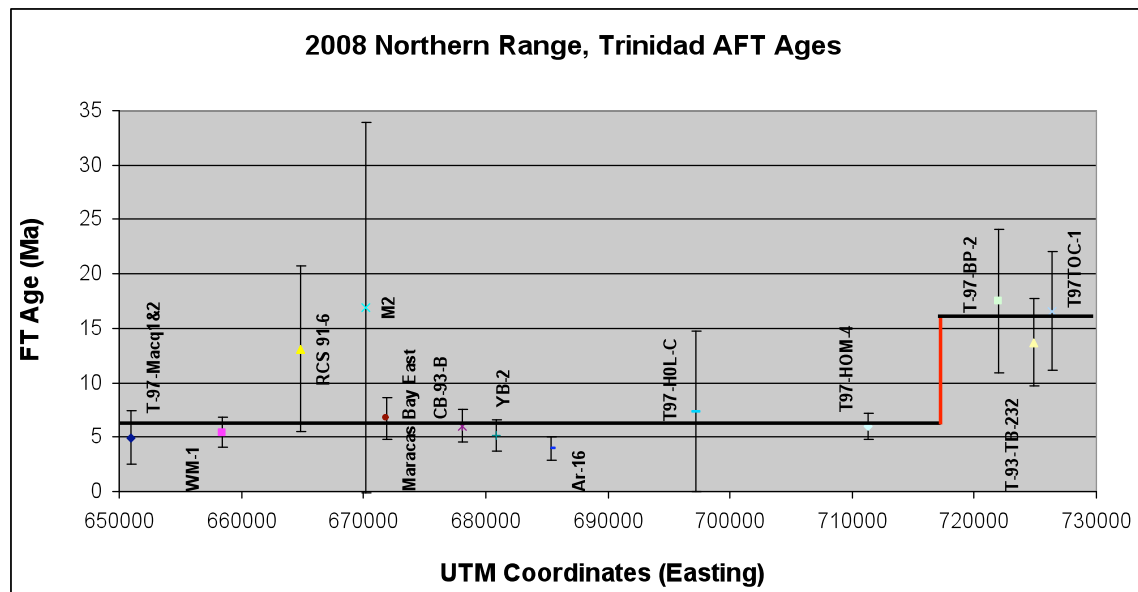
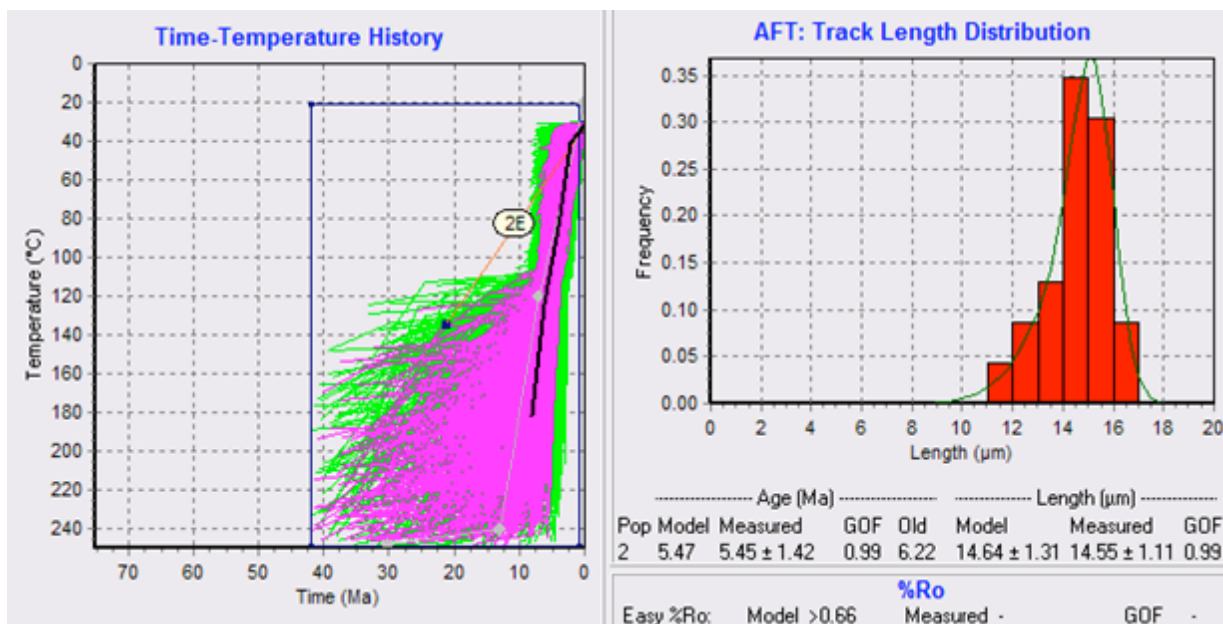
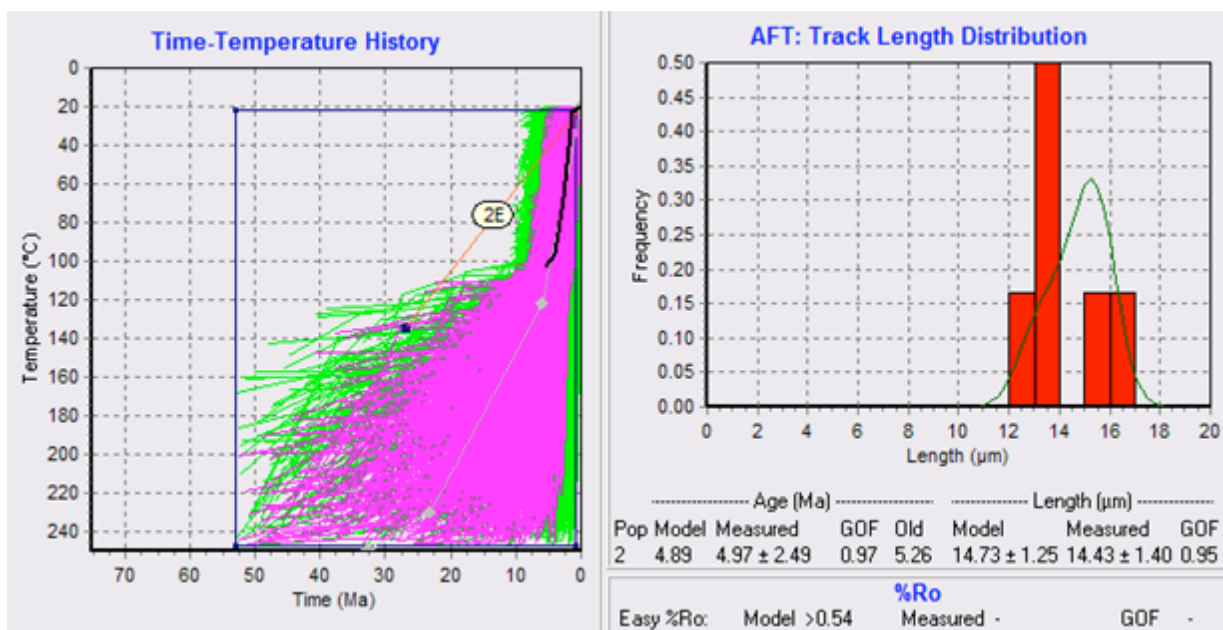


Figure 6. Apatite fission-track ages determined in this study plotted against UTM eastings. All error bars represent 2σ level errors. The vertical line at ~716000 easting represents a thermal discontinuity where older FT ages (east) are in contact with younger FT ages (west). This could be either a fault or an exhumed isotherm.

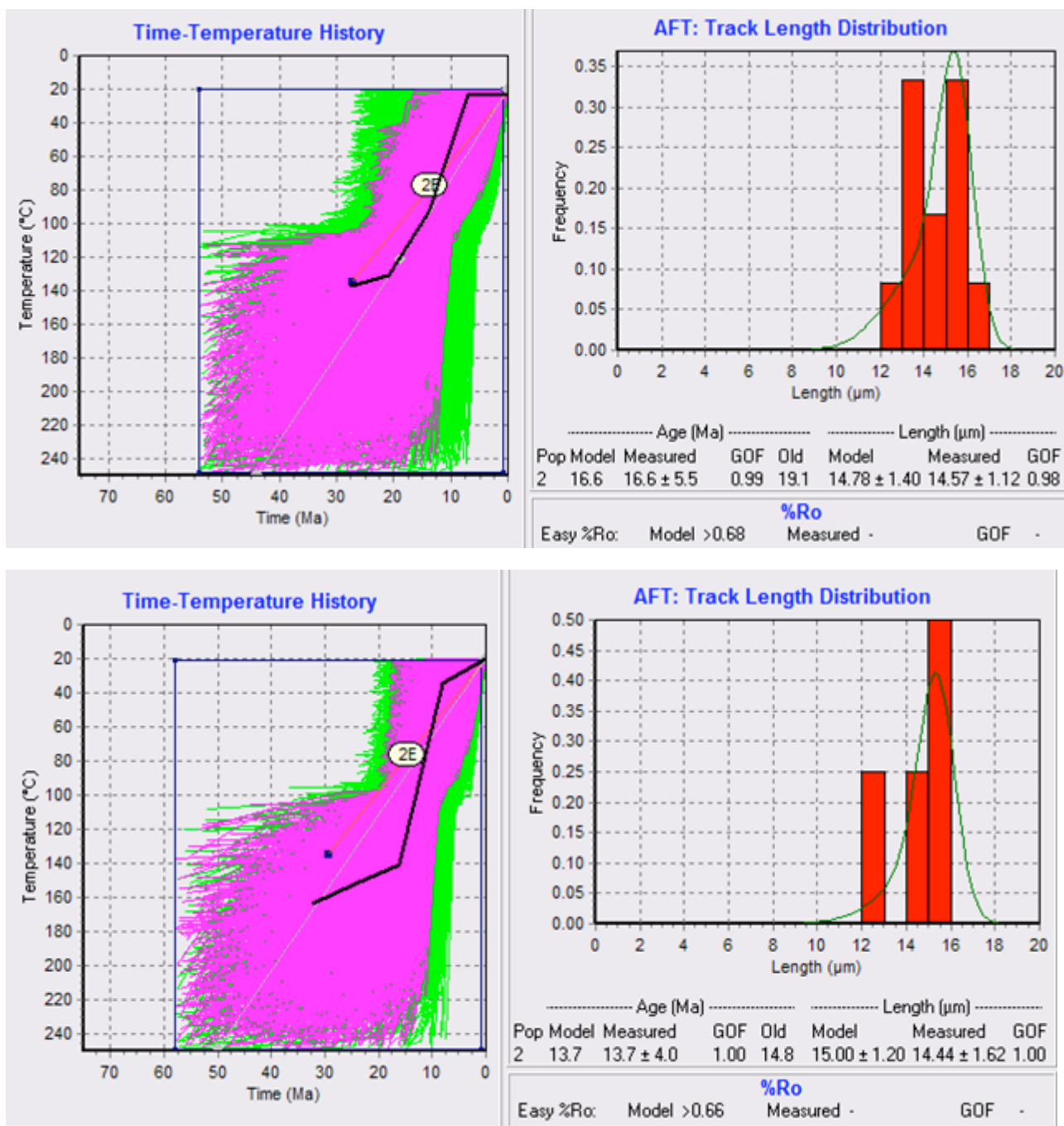
Summary of AFT Data (Northern Range, Trinidad and Paria Peninsula, Venezuela)

Sample Name (Trinidad)	Easting - UTM	Northing - UTM	Apatite Ages	± 95% confidence
T-97-MACQ1+2	650996.1746	1187512.722	4.97	2.49
WM-1	658420.1164	1181037.299	5.45	1.41
RCS 91-6	664859.6892	1187024.106	13.1	7.6
M2	670144.8881	1190294.402	16.9	17
Maracas Bay East	671858.6663	1189803.258	6.74	1.95
CB-93-B	678098.0582	1193805.564	6.02	1.51
YB-2	680883.9364	1195082.511	5.15	1.44
Ar-16	685334.772	1190028.102	4.01	1.08
T97-H0L-C	697221.39	1182199.216	7.36	7.37
T97-HOM-4	711304.5705	1197970.948	6.05	1.2
T-97-BP-2	721994.9821	1188652.316	17.5	6.6
T-93-TB-232	724911.28	1193727.33	13.7	4
T97TOC-1	726408.3419	1198648.063	16.6	5.5
Sample Name (Venezuela)	Latitude	Longitude	Apatite Ages	± 95% confidence
PP - 022	10°44' N	61°52' W	20.3	± 1.93

Table 1. Summary of samples, locations, and apatite fission-track ages.



Figures 7a-b. HeFTy models – western Northern Range samples. (a) T-97-Macq-1&2. (b) WM-1. Track length distributions (right) are observations; time-temperature histories (left) are models.



Figures 7c-d. HeFTy models – eastern Northern Range samples. (c) T-97-TOC-1. (b) T-97-TB-253. Track length distributions (right) are observations; time-temperature histories (left) are models.

Mini-Kingdoms and Ivory Towers: A Critical Analysis of Higher Education in Modern Civil Society



David Martin
McNair Scholar



Michael Ott, Ph.D.
Faculty Mentor

Introduction

What is education? What is education in our society and culture—in other words, modern civil society—and how does it function within the constraints of a capitalist economy? What is its ultimate purpose? In terms of the etymological semantic potential of the word education, which gives expression to “leading people out,” to grow, become, or develop one’s human potential, is education meant to be a dynamic means of being led out of unreason, superstition, fear, ignorance, and anti-intellectualism? Does our educational system move us toward wisdom, rationality, understanding, justice, and freedom? Or, is the purpose of education simply a means of commanding greater wealth? Is education an avenue through which individuals create character that potential employers will find attractive?

The purpose of this paper is to call attention to the state of our educational institutions and to examine their potential for moving us toward a more reconciled future that is free from political, economic, and intellectual oppression. Throughout this paper I will expose how that potential has been reified in favor of the capitalist mania for ever-increasing profits. Also, I specify that conditions of higher education in modern civil society, explicitly calling attention to the relationship between student and professor and how it is affected by the overarching economic and political systems. I address the cultural and structural hegemonic forces working to perpetuate those effects and why they do so. I accomplish this through the study of the pertinent historical and contemporary materials that reference and critically analyze the relationship between economics, politics, and higher education in modern civil society. I conclude with a means of combating the antagonisms found within the classroom and present an alternate method of educating more in line with what Paulo Freire termed “problem posing” education.

From my research I have concluded that many professors instill within their students a sense of dependence and an anti-intellectual mindset of uncritical thinking. This can be attributed to the colonization of our educational institutions by class antagonisms, proliferated by the capitalist class means of production that values profit over humanity. Education has been transformed from its intended purpose, defined by its etymological origins, into a means of streamlining the transition from the student-professor to the worker-owner relationship in modern civil society.

Although in this paper I focus intentionally on the educational process in colleges and universities, I take the position that in order to induce critical pedagogical reform, critical thinking must be reasserted as a primary function in the theory and praxis of all educational institutions. Critical thinking is, according to Paulo Freire (1970):

Thinking which discerns an indivisible solidarity between the world and the people and admits of no dichotomy between them—thinking which perceives reality as process, as transformation, rather than a static entity—thinking which does not separate itself from action, but constantly immerses itself in temporality without fear of the risks involved. (P. 73)

For Freire, critical thought in theory and praxis is fundamentally grounded in and expressive of the sociohistorical struggle for more reconciled, rational, and humane future societies. Critical theory and praxis are crucial to the elemental substance and purpose of education. They allow one to be free of the societal pressures to conform and they negate the suppression of that which is wholly “other,” which in turn facilitates the creation of a better future society. However, in modern civil society, the theoretical attraction and attainment of higher levels of education is systematically made directly proportional to the economic

possibility of employment. The attraction of this employment comes in the form of a more lucrative remuneration and benefit packages, which then brings the potential of increased social capital and prestige. Education has thereby been reduced into a means of socioeconomic production and reproduction of commodities as well as of the social class antagonistic status quo. Students are to learn, and the better ones become masters of, the technical and political rules by which the social system operates. In theory, people are rewarded based on their knowledge and ability to contribute to the maintenance if not progress of the status quo. In such a totally administered and class-driven system, which depends on either the assimilation or the removal of all things different or wholly other, it becomes apparent why the critical component of education is systematically limited to a few courses or professors. That is to say, the atmosphere of intellectual oppression prohibits the student and the professor from engaging in discourse from which the active development of a critical perspective can flourish. This in turn minimizes the potential maturation of theories and actions that are critical of the current state of our political and economic institutions and policies.

In the scope of this paper, what constitutes oppression can be conceptualized in reference to human need. Herbert Marcuse (1964) made a distinction between true and false human need:

False needs are those superimposed upon the individual by particular societal interests in his repression: the needs which perpetuate toil, aggressiveness, misery, and injustice. Their satisfaction might be most gratifying to the individual, but this happiness is not a condition which has to be maintained and protected if it serves to arrest the development of the ability (his own and others) to recognize the disease of the whole and grasp the chances of curing the disease. The result then is euphoria in unhappiness. Most of the prevailing needs to relax, to have fun, to behave and consume in accordance with the advertisements, to love and hate what

others love and hate, belong to this category of false need. (P. 5)

The key element in the implementation of false need is that it is conceptualized and put forth by external powers over which the individual has no manifest or latent control. Such external power in the advanced Western world is wielded by the capitalist class, the top 5 percent of the world population, who hold dominance over the media and political arena, as well as the production of consumer goods, including those that contribute to basic subsistence. This class of people function within what William G. Domhoff (2002) termed “interlocking directorates.” Members of this segment of the population attend the same boarding schools, universities, country clubs, and belong to other socially recognized “blue books” and registers. They operate under the concept of shared interest and collectively put forth policy by way of significant political influence, which is directly intended to further their cultural and economic dominance. These individuals manage virtually every aspect of civil society through corporate control and cultural hegemony. Furthermore, they determine the precise arrangement of those false needs that are reinforced predominantly in the classroom and other social institutions such as the family and religion. More often than not, these arrangements function to maximize profit for the capitalist and ruling classes regardless of the detrimental effects on the working individual’s mental health and physical well-being.

Herbert Marcuse (1964), who was a founding member of the critical theory of the Frankfurt school, which was established in Frankfurt, Germany, after World War I, referenced this domination while working as a member of the Institute for Social Research. Marcuse believed that American capitalism, which has given rise to mass consumerism and corporate control, has created a dichotomy between what people truly need in the quest to achieve their humanity and what has been socially labeled as denoting success by dominant corporate ideology.

He states:

No matter how much such needs have become the individual’s own, reproduced and fortified by the conditions of his existence; no matter how much he identifies himself with them and finds himself in their satisfaction, they continue to be what they were from the beginning—products of a society whose dominant interests demand repression. (P. 5)

Functioning under the umbrella of dominant elite interest is the university, which serves to indoctrinate and solidify the false needs that are required for the perpetuation of the political and economic systems. This false need is filtered into the ideologies of students through their interaction with the professor in the classrooms, hallways, offices, and other locations where the two interact. As stated earlier, the student-professor relationship takes on the characteristics of the worker-owner paradigm in modern civil society. Thus, all of the internalization of false need (oppression) is reinforced in those who have already adopted it in earlier stages of education and forced upon those who have not fully accepted it as one progresses through academia. This manipulation is done through the bureaucratic power structures and unspoken hierarchies that permeate college and university campuses. These social networks are built upon ideologies, values, and norms that mirror those found in the corporate world.

The university primarily serves to train and prepare future generations of workers, in an advancing technological society, to take up the positions held by previous generations. This shift toward training becomes functional for corporations in that it intensifies competition among prospective employees as current workers reach retirement or become obsolete under the strain of technological advancement and globalization. Due to this, the prevalence of critical thought and praxis has drastically lessened since the 1960s, a time when widespread political and cultural movements created an environment conducive to critical discourse. Presently, such critical social

thought is not even a periphery function or requirement for success in our educational institutions.

However, there are those professors who have themselves been exposed to various forms of critical theory, and while being in the minority, they nevertheless attempt to provoke an intellectually inquisitive mentality within students. I was exposed to such people in my time in undergraduate education and chose to internalize a critical view of the world rather than adopt the dominant views present in most classrooms. Professors who choose to participate in Paulo Freire's "problem posing" style of education, which will be further defined later, could be denied tenure, reprimanded, or passed over for positions altogether. This potential exclusion of critical educators would further illustrate how the needs of the economic system are placed above those of the student within the system.

Laying the groundwork for a truly critical pedagogy necessitates a break from the systemic standardized ideology that promotes an uncritical positivistic mentality. It requires the theorist to develop modes of thought and praxis outside of, but also include the transformation and use of, preexisting social mechanisms and institutions. The university, for example, is an institution that holds the potential for the nurturance and development of true critical thought and praxis. However, the outdated and authoritarian pedagogical methodology needs to be reconceptualized in order to promote emancipatory social change, thus reshaping society and ushering in a more progressive and reconciled future.

"Problem Posing" Education vs. "Banking" Education

Frequently in higher education, rote memorization is misunderstood to be true education. Accordingly, the teacher is rewarded for his or her ability to "fill" student's heads with information without relaying the meaning and importance of the words themselves. Moreover, this method of disseminating knowledge, which Paulo Freire (1970:52) termed the "banking style of education," hinders the development of critical thought by eliminating the need for the students to create

and unfold their own concepts and ideas.

In higher education the skill least developed, and in some instances missing altogether, is the ability of students to think critically. Throughout my educational career, I have spoken to many professors and have been told repeatedly that the ability to logically analyze, critique, and synthesize complex material (i.e., critical thinking) is an undervalued skill absent from most of the student population. Rather than being taught how to become critical thinkers, students are frequently trained how to be good workers through the banking method of education. In this way students become objects rather than subjects, repositories to be filled rather than people to be educated.

True critical thought is not possible in the act of training. Training does not require the individual to question or analyze but to follow directions as closely as possible, thus repressing creative and progressive thought and action. True problem posing education is possible only through rational authority and the active intellectual engagement and critical discourse between all participants in the educational process. In her analysis of Herbert Marcuse's *Eros and Civilization* (1955), Antonia Darder takes note of the distinction made in reference to necessary and excessive repression and authority. She acknowledges that some structure is valid in the attempt to educate, but that it has become irrational in its application in modern civil society.

In speaking of domination as a psychological as well as a political phenomenon, Marcuse did not give a carte blanche response to wholesale gratification. On the contrary, he agreed with Freud that some forms of repression were necessary. What he objected to was the unnecessary repression that was embodied in the ethos and social practices that characterized social institutions like school, the workplace, and the family. (Darder, Torres, and Baltodano 2003:49)

Coinciding with the irrational and excessively repressive structure in our educational institutions is the cultural shift towards mass consumerism and

commodity fetishism. Students are subjected to the bombardment of mass media advertising, even within schools, as name brands are venerated and posited throughout educational buildings. As this trend begins to take hold, even knowledge is subjected to this commodification. Students then become further segregated by socioeconomic status (SES), athletic ability, intellectual prowess, and in many instances, by race or ethnicity. This separation reinforces the in- and out-group relations present in modern civil society, which serves to perpetuate the toiling of the oppressed by the owners of the means of production. Lower-class groups functioning within the confines of an increasingly administered society are pitted against one another, coaxed into viewing anything that is "the other" as a threat to their ambition of attaining increased financial and social capital. While seeking to emulate the capitalist class, average people are forced to step on and over one another in order to climb into the upper social and financial echelons of society. This constant struggle to fight off perceived threats occupies the attention and energy of those participating in the conflict, which in turn narrows one's views to only the most immediate concerns. Due to this, the instigation of intergroup antagonism is a highly effective tool used by upper-class agents in order to direct attention away from societal injustices and inhumanity. All the while average Americans continually elect individuals who work to preserve those injustices, as they are functional for the wealthiest members of our society. Gore Vidal stated, "The genius of our system is that ordinary people go out and vote against their interests. The way our ruling class keeps out of sight is one of the greatest stunts in the political history of our country" (Darder et al. 2003:79).

During their time in educational institutions, students are taught the ins and outs of living a working-class life. They begin taking responsibility over their performance and internalizing the oppressive mentality placed on them by individualistic capitalist ideals of success and failure. Life becomes about whom one knows and what one has, rather than the content of one's character. Social

divisions are reinforced in the form of cliques and in-groups while those who have retained the seeds of critical thinking are marginalized and labeled as troublemakers and unpatriotic. As a result, the nonconformist character of those individuals is seen as unteachable, or in capitalistic terms, unemployable.

Erich Fromm believed that the dominant social institutions shape the character of the individuals within them. The economic system has such a significant impact on the means by which social institutions work, we may stipulate that education in a capitalist economy shapes the social character of individuals into forms that are beneficial for the perpetuation of the economic system. This character development is also correlated to the means by which we educate our population and to what end. Due to the capitalist system imperative for the ever-increasing production of profit, the educational system begins morphing into an institution that is more a business than a so-called Ivory Tower. Students are seen as sources of tuition and other forms of revenue and thus are treated like customers rather than people seeking knowledge. The banking mode of education is chosen because it emphasizes rote memorization, respect for authority, and the continuation of static tradition rather than quality, newness, and originality of thought. D. Stanley Eitzen, Maxine Baca Zinn, and Kelly Eitzen Smith (2009) also speak to the structure and nature of education in modern civil society by stating:

The avowed function of the schools is to teach newcomers the attitudes, values, roles, specializations, information, and training necessary for the maintenance of society. In other words, the special task of the school is to preserve culture, not transform it. Thus, the schools indoctrinate their pupils in the culturally prescribed ways. (P. 467)

To assume that instructors in an institution of higher education are consciously aware of this banking style of education would be incorrect. Many professors have also internalized the socially acceptable means of attaining wealth, prestige,

and cultural capital. Subsequently, in many instances professors unconsciously instill a sense of dependence in their students. Educators too experienced the very same repressive pedagogy and as a result the banking method has seeped into their teaching style. However, some students and teachers begin to see the contradictions, by way of their existential experiences, in the dominant theory and praxis of our educational institutions. It is at this point that Freire (1970) states:

Sooner or later these contradictions may lead formerly passive students to turn against their domestication and the attempt to domesticate reality. They may discover through existential experience that their present way of life is irreconcilable with their vocation to become fully human. (P. 56)

Accordingly, from day one, the teacher must seek to transition the student-teacher relationship away from a dependent-paternalistic paradigm toward a type of discursive partnership. The student must no longer be viewed as a lifeless object to be filled with information, but rather a person from whom even the professor can learn and grow.

This transition is dependent on the removal of irrational authority from the educational process. Needless to say, an educational environment cannot function without an appropriate authority structure. The professor must have some control over the pedagogical processes taking place within the classroom. However, this control is often perverted into a means of furthering the student's dependence on the professor and the subsequent employer upon entrance into the labor market. The difference between what constitutes a healthy and fundamentally necessary authority lays in the nature of the relationship between both parties in the educational setting. Fromm (1976:31) distinguished between positive authority and destructive authority, labeling the former "rational" and the latter "irrational." He conceptualizes authority by classifying it into his two categories: (1) rational authority, which is derived from competence and helps the individual to grow when that persons leans on

it; and (2) irrational authority, which is based on power and serves to exploit the person subjected to it.

Fromm elaborated further by introducing his belief that human beings have a specific structure and freedom to grow within the boundaries of that structure. This argument, however, may seem like a contradiction. What is this structure and how can one be free to grow while being limited to a predetermined set of parameters? Fromm (1976) qualified this seemingly dichotomous situation by alluding to the guidelines for said structure:

Freedom does not mean freedom from all guiding principles. It means the freedom to grow according to the laws of the structure of human existence (autonomous restrictions). It means obedience to the laws that govern optimal human development. Any authority that furthers this goal is "rational authority" when this furtherance is achieved by way of helping to mobilize the child's activity, critical thinking, and faith in life. (P. 66)

When a professor practicing rational authority within the classroom does so not only with the intention of helping students progress toward higher levels of critical thinking and "optimal human development" but also in order guide the dialogue, he or she is able to inject critical discourse into the educational process. To further elaborate, "optimal human development" consists of any socially constructed environment in which an individual has free reign to question, reflect, offer opinion, and have that opinion taken seriously. Furthermore, it is an environment that allows individuals to work together synergistically in the pursuit of a more reconciled society in which people are free from the detriments of preventable social problems.

Fromm (1976) discusses how social structure effects social character and how social character has been transformed from its original mode in early sixteenth-century capitalism to today's authoritarian-obsessive-hording form. This gave way to his notion of the "marketing character," which is a person who places value on his self based on "exchange

value” and to a lesser degree on his “use value.” Created from this transition is the concept that men and women see themselves as commodities to be placed on the “free” market.

The aim of the marketing character is complete adaptation, so as to be desirable under all conditions of the personality market. The marketing character personalities do not even have ego (as people in the 19th century did) to hold onto, that belong to them that do not change. For they constantly change their egos, according to the principle: “I am as you desire me.” (P. 121)

This concept relates to the nature of the banking style in higher education in which the student picks and chooses from a wide array of subjects, never obtaining any depth of knowledge in any field. For the marketing character personality, to have a wide base of knowledge without depth of understanding allows for individuals to enter the job market with a perceived higher exchange value. This higher value then allows for a greater chance one may be able to appease the various consumers of these marketing characters, the potential employers.

As a result, people within our economic system shift from being cold and lifeless automatons into a sort of reprogrammable robot, one that must constantly adapt to the shifting desires of corporate America. As we move from the old to the new economy, we see how modern institutions of higher education contribute to the shaping of this personality; students are encouraged to sample various subject material but are not expected to demonstrate deep proficiency in any of them. Students are given what Fromm (1976:34) calls “Luxury-Knowledge packages,” which are clusters of information and cultural capital that is commensurate with the expected social prestige and wealth-earning potential that the student exhibits. Therefore, people are trained to know *more* rather than being taught to know *more deeply*, which enhances the characteristics and subsequent success of the marketing character in capitalist labor markets.

If the student’s economic success is

dependent on the ability to memorize random information and the professor’s economic success is dependent on his or her ability to deposit what is to be memorized into the student, then it is no wonder why the banking style of education takes precedence in modern civil society. The Marxian notion of estranged labor provides a lens through which we can place our current state of education in a relevant context. Once a person’s labor is no longer part of his or her life activity but merely a means for fulfilling immediate physical need, the individual negates his or her own species-being (humanity) in the process of seeking education. The liberational and life-dynamic transcendence that comes from true education is abandoned as one’s survival becomes contingent upon the ability to adapt to the banking style of education. As stated earlier, the professor works for wages which are contingent upon his or her ability to make said deposits. Concurrently, the students’ survival, albeit delayed gratification, is contingent upon their ability to take on that market personality. In both instances the pursuit lies not in education, but merely in the acquisition of wealth in order to protect one’s physical existence.

In Marcuse’s (1964:7) words, the predominant feature in modern civil society is the “suffocation” of need that demands freedom and liberation. He believed that true liberation must also free humanity from that which is “... tolerable, and rewarding and comfortable...” Marcuse made this fascinating statement in reference to those who do not view themselves as oppressed because they enjoy certain luxuries and the illusion of free choice. However, there is no liberation in free choice when the choices are given without one’s input and in contrast to one’s personal interests. There is no democracy in a system with only two viable political parties with little significant difference between them. As Marcuse (1964:7) stated in *One-Dimensional Man*, “free elections of masters does not abolish the masters or the slaves.” There is no liberation or free choice on the open market when a handful of conglomerates, whose actions are not transparent, control price, advertisement, and have significant influence over the political arena. Fur-

thermore, there is no freedom of choice when the goods and services available serve only to perpetuate the cycle of domination and oppression inherent in and necessary for modern capitalist economies to function. Marcuse (1964:7) sums up this idea by saying, “Under the rule of a repressive whole, liberty can be made into a powerful instrument of domination.”

The relationship between student and professor has increasingly taken on the undertones of the relationship between worker and owner, paralleling the subordination of student to teacher as the dominant paradigm in modern educational institutions. As Karl Marx (1988:25) states, “Landowner and capitalist are merely privileged and idle gods, are everywhere superior to the worker and lay down the law to him.” By analyzing this observation of the capitalist worker-owner dynamic in reference to the modern classroom, we begin to see the parallels that take place between it and the student-professor relationship. The professor acts as a quasi-capitalist, laying down the law to the student, whose place is that of the inferior worker. Professors within the classroom are given a type of authority over the educational process that is only superseded by those ranking higher in the bureaucratic structure of the university. Thus, what should be a rational authority is changed into irrational authority as the professor reacts to the will of the university bureaucracy, which in turn acts in accordance with its own interest rather than that of the student. Even those professors who are aware of this structural deficiency in educational institutions who wish to implement a more comprehensive and in-depth curriculum must work under the confines of the bureaucratic structure and policy put by the administration.

On the other end of the spectrum, there are many professors who coddle their students, adopting a paternalistic approach; the standards of excellence are set so low that students are never challenged to become high-level scholars. Both methods treat the student as an inferior party, which creates a dichotomy that further adopts the paradigm of the worker-owner relationship in our capitalist economy. In support of this point I refer

to Marx (1988:31) who stated, "In order to live, then, the non-owners are obliged to place themselves, directly, or indirectly, at the service of the owners—to put themselves, that is to say, into a position of dependence upon them." Therefore, inasmuch as the workers in modern capitalist culture subordinate themselves to the power elite, the students subordinate themselves to their professors. To qualify this further, bell hooks (1994:17) states in reference to professors in institutions of higher education, "More than anything they seemed enthralled by the exercise of power within their mini-kingdoms, the classroom."

Within the banking method of education students translate their habits as mass consumers into the classroom. Student will listen and take notes to memorize later what they have heard in order to earn a good grade. This perverts knowledge into a logical sequence of words that is not internalized but simply memorized to a degree that allows for regurgitation on an exam or evaluation. Knowledge becomes a thing to be had and to control rather than a process of understanding and becoming. Ideas of equality and justice are prostituted on the broken streets of capitalistic ambition while dehumanization and the cybernetic automation of working-class people inhibits the pursuit of a more just and reconciled future. Because higher education is intended to be the pinnacle of intellectual inquiry before young men and women take up their positions in the labor market, the colonization of that institution by class antagonisms must be reversed if any hope of reconciliation is to be possible.

Erich Fromm (1976) explains this shift toward automation and commodification by analyzing how the forms of property attachment found in civil society has reversed course from the early nineteenth-century capitalistic form to the current manifestation. Fromm states, "In the older period, everything one owned was cherished, taken care of, and used to the very limits of its utility" (1976:58-59). Fromm calls this type of property attachment "keep it" buying. In contrast, what Fromm calls "throw away" buying has come to dominate consumer culture. In this mode the consumer makes a pur-

chase, soon tires of it, and then beings looking for the latest update or model to take its place. The old version is thrown away in favor of the new. The same type of property attachment seen in the consumer market can be found within the classroom. Students as well as professors are infatuated with the accumulation of knowledge but lack the patience to gain depth into the subject, constantly moving from one idea or subject area to another. Students are rarely even asked to finish reading an entire book. Instead, they are fed a chapter from this book and that book and given just a glimpse into the content of the author's theory.

Even problem posing teachers participate in this mode of educating because of the simple lack of time in a given semester to truly delve into the material. This speaks to the structural inadequacies of higher education. Many, if not all, undergraduate courses take place in the same window of time, a 16-week semester being typical, regardless of the ease or difficulty of the material. As D. Stanley Eitzen and Maxine Baca Zinn (2002) state:

U.S. schools are characterized, then, by constraints on individual freedom. The school day is regimented by dictates of the clock. Activities begin and cease on a timetable, not in accordance with the degree of interest shown or whether students have mastered the subject. (P. 472)

This traditional authoritarian teaching style is coupled with the new type of property attachment found in modern civil society. This combination, which is diametrically opposed to a true critical pedagogy and praxis, simply reinforces status hierarchies, in- and out-group antagonisms, and propagates an uncritical mind that is more easily manipulated by social and political elites. Fromm (1976) sums up his explanation by simply stating that the type of property attachment that flourished in the nineteenth century could be viewed as "old is beautiful," as opposed to the decades since the end of WWII, during which one could say "new is beautiful."

Commodity fetishism has permeated

our society, as evidenced by the growing mass-consumer culture we now function within, and is in full effect within the classroom as well. These commodity fetishes are internalized and solidified by way of the modern capitalist notion that one's value is determined by the degree to which that individual can accumulate wealth. In turn, that wealth is acquired for the sole purpose of obtaining goods and services. In that acquisition of goods and services people then find their self-value, which is reinforced by the bombardment of television commercials, product placement, Internet advertisement, and the marketing found in print media. At all times the message is hammered into people that having more possessions equates to greater self-value. As a result education becomes simply another thing to obtain; notions of transcendent and critical thought are cast aside in favor of rote memorization that only serves to make people into objects capable of following orders in an increasingly more efficient manner.

Rather than learning to create their own ideas, students relegate themselves to the acquisition of thoughts or ideologies relayed by someone else, typically the professor and other authority figures such as parents and religious leaders. Erich Fromm (1976) believed that students are, in many instances, dismayed by the concept of active engagement in learning. This is due to the internalization of the class-antagonistic nature of the worker-owner relationship. The worker, having internalized his socially labeled inferiority to the owner, often feels that he or she has no place to speak up and suggest ideas that may contradict that of the owner, or to take a step further, put forth a system critique by way of critical investigation. Paulo Freire (1970) also makes reference to this phenomenon in *Pedagogy of the Oppressed*. Subsequently, as referenced in both the contemporary and historical literature, this illusion of mental deficiency that spans the lower classes in modern civil society has seeped into the classroom and into the behaviors, thought processes, and habits of both students and professors. Ensuing from this paradigm is the perception that for a student to question the professor is seen as disrespectful and

that professors conduct their classroom like mini-kingdoms functioning within the Ivory Towers of academia.

Erich Fromm (1976) states:

Students in the having mode have but one aim, to hold onto what they have “learned” either by entrusting it firmly to their memories or by carefully guarding their notes. In fact, the having-type of individuals feel rather disturbed by new thoughts or ideas about a subject, because the new put into question the fixed sum of information they have. Indeed, to one for whom having is the main form of relatedness to the world, ideas that cannot easily be pinned down (or penned down) are frightening—like everything else that grows and changes, and thus is not controllable. (P. 25)

To take a dialectical approach to the above-mentioned issue present within higher education, we must look toward its opposite. Student and professors alike must adopt what Paulo Freire termed the “problem posing” style of education, coupled with Erich Fromm’s “to be” mode of existence. Together these philosophies combine to create an environment conducive to the increased potential for critical thought and awareness. Students engaged in this type of education ponder, even before the course begins, what they will take away from it, how it will affect their disposition, and what they will contribute to the overall learning experience. After all, a student has as much to offer to the intellectual exchange that takes place in the classroom as the professor. The student accomplishes this by adding his or her own unique perspective to the active discourse between professor and student, as well as between students and their peers.

Crucial to the development of critical pedagogical theory and praxis is understanding of the true nature of words. Words serve two functions that allow for the identification and ultimately the negation of social injustice. First, words function to reflect. This is accomplished by giving the individual a means of articulating feelings, intuitions, and observations in such a way that allows for

a deeper understanding of social issues and one’s relation to them. This is more commonly referred to as speaking truth to power. It is in reflection that one may come to find the dehumanizing traits in a given institution, ideology, societal norm, as well as within oneself. Second, words function to act upon those injustices. Freire (1970:68) stated, “There is no true word that is not at the same time a praxis.”

Within words lies this synergistic relationship between reflection and action. The absence of either demeans the potency of its partner. Subsequently a word without action compromises its reflective potential. This dichotomy brings to the fore what Freire (1970:68) called “unauthentic words.” An unauthentic word is “an empty word, one which cannot denounce the world, for denunciation is impossible without a commitment to transform, and there is no transformation without action.”

In this method of education the student and the professor actively engage one another in an attempt to form what I call bridges of awareness, which function to close the gap formed by alternate life experience. These bridges allow for the creation of progressively shared and symbiotically created social meaning. This in turn enables individuals to more fully understand the sociohistorical and economic spheres of influence they share with people of similar backgrounds, as well as the spheres occupied by others of dissimilar upbringings.

Because we are all unique individuals who learn and perceive everything in different ways, the only true means of educating is the sincere attempt not to only listen to or observe other perspectives, but to internalize the concept of the other. By this I mean that to learn means to grow; learning is not a static process, but one cannot learn by only studying that which is familiar. It is in the exposure to anything that is other that we step toward new modes of thinking, toward the achievement of our humanity, toward a more just society and reconciled system of higher education, and finally, hopefully, toward freedom from economic, political, and intellectual oppression.

However, a caveat must be stated. For this means of active engagement to take

place, the classroom must offer material that is intellectually stimulating and challenging. Thus, it is a dialectical process in which the professor must engage students as equals in regards to the potential for uplifting the intellectual discourse. Furthermore, the student must engross themselves in the active pursuit and contribution to the process of gaining depth and understanding of knowledge, which then enhances the professor’s ability to engage with the student. As Fromm (1976) states in reference to the “to be” mode of educating: “Instead of being passive receptacles of words and ideas, they listen, they hear, and most important, they receive and they respond in an active, productive way” (p. 24). Fromm goes on to state, “Empty talk cannot be responded to in the being mode, and in such circumstances, students in the being mode find it best not to listen at all, but to concentrate on their own thought processes” (p. 30).

According to Fromm (1976):

The difference between the mode of having and the mode of being in the sphere of knowing is expressed in two formulations: “I have knowledge” and “I know.” Having knowledge is taking and keeping possession of knowledge (information); knowing is functional and serves only as a means in the processes of productive thought. (P. 33)

When we apply this to our current system of education we can see that often, but not always, the student and the professor are engaged in the hoarding and memorizations of information. Neither individual views the available knowledge as a means of negating systemic injustices and inequalities. Knowledge in the circumstance is not viewed as a means of becoming more and establishing a new paradigm based on honest reflection, stimulated by new perspectives. This is due to several factors but primarily because our students and professors have been stripped of their humanity and autonomy in the banking system of education.

Fromm believed that the aim of knowledge differs between the two

modes of existence in that the goal of the having mode is *to obtain more knowledge*, as opposed to the being mode, which is *to know more deeply*. In this respect we see how the “having mode” of existence is prevalent in the classroom and synergistically transmitted between professors and students. Fromm (1976:34) states in reference to this polarity, “... The aim of knowing is not the certainty of ‘absolute truth,’ something one can feel secure with, but the *self-affirmations process of human reason*.” Stated differently, this means that education, in which the university is the apogee of achievement, should be a pathway that serves to lead individuals to a level of enlightenment and understanding that allows for the reclamation of one’s humanity.

This method of educating is a practice of futility that ultimately leads those living a “to have” mode of existence to be insatiable in their consumption and unwavering in their belief in authoritarian banking education. The notion of unlimited consumption that dominates capitalistic culture seeps into our view of knowledge, which in turn trickles down into the teaching style of many professors. Universities then become a type of assembly line in which students pick and choose, as they would food from a buffet, the bits and pieces of knowledge that appear to be interesting, all the while never truly bothering to understand any of it. This in turn makes them unable to critically analyze anything because they have not been encouraged to develop a questioning mind, one in which the initial exposure to any given base of knowledge leads the student to deeper and more thoughtful questions. In a sense, what some would argue is the natural curiosity of humanity is transformed into a mass consumerism functioning within capitalistic markets, which are far from free and fair.

People then are molded into more efficient and less unpredictable cogs to be placed seamlessly into the machine of political economy. The rough edges we are born with that grab and snag upon the fabric of education and learning are sanded down, making individuals into automatons—cold, steel, and smooth, almost certainly to never have those rough

edges of inquiry again. In contrast, those who wish to know more deeply do not concern themselves with the boxing-in of ideas, but rather understand that to have a deeper intellectual hold of any given object of knowledge means that one is able to further define his or her place in the world. The transcendent quality of the process of delving deeper into an idea, culture, or any area of inquiry creates deep, rough trenches in the mind of persons attempting to become more than what they are. This leads us to transcend the boundaries placed upon us by conventional thinking and old paradigms.

In essence, a person in the “to be” mode of existence who accepts the “problem posing” style of education is one who does not deal in absolutes. By this it is meant that it is not necessary for these people to own and thus control all that can be known. Indeed, ignorance is just as an important aspect of a critical mind as any other because ignorance is part of the process of knowing more deeply; it fuels that intense will to become knowledgeable. However, this should not be misunderstood to be the ignorance of the unthinking mind, as Fromm would argue.

The dichotomies of the two methods of education also encompass the difference between teaching and training. Training requires procedures and strict guidelines to ensure that each cog in the system is functioning predictably and efficiently. This allows for the owners of the means of production to eliminate almost all “radical” behavior by the people working within the system whose task it is to conduct daily operations. Teaching, in contrast, in its true sense has an iconoclastic quality: It serves to break down conventional thought and seek new ways of solving problems and engaging in dialogue. This activity requires that the people involved are able to critically analyze their circumstances and break down the causes, as well as identify possible solutions. The ability to think critically makes individuals far more unpredictable and “radical” in their action and thought processes. This is due to the nature of critical awareness. What is inherent in this mode of thinking is the constant questioning of reality. The critical thinker, nurtured by a true problem posing

education and “to be” mode of existence, struggles to weed out all potential causes of and reactions to any given issue.

The many inherent contradictions in our capitalist society create irreconcilable situations for the critical thinker. For example, principles such as free market competition, the notion that hard work is always rewarded, and that if one tries one can accomplish any of one’s goals starkly differs from reality. In our society markets are far from free and fair, we reward class and privilege over hard work in many instances, and most people are blocked from attaining their goals by structurally embedded forces working to perpetuate the caste-like stratification system we function within. Higher education has been instrumentalized into a factory for producing uncritical thinkers who internalize instruction well and conform to expectations. To simplify the contrast between the styles of educating—banking as opposed to problem posing—one need only look to Paulo Freire. In *Pedagogy of the Oppressed*, Freire (1970:62) simply states, “Problem posing education is the constant unveiling of reality while the banking system of education inhibits creativity.” Thus, continuation and perpetuation of Joe Bageant’s “American Hologram” remains in full swing.

In his book *Deer Hunting with Jesus: Dispatches from America’s Class War*, Bageant (2007) further sheds light upon this common American misconception that he terms the “American Hologram” by providing an in-depth look into these self-destructive fallacies and bringing them back to reality. This in turn allows for broader analysis of how this consumer culture has changed the landscape of our institutions of higher education. The construction of this illusion is directly related to the inability of recent generations to forge a unique identity that is then compensated for by the development of Fromm’s market personality. Now more than ever, one’s identity is nothing more than a patchwork of fads and styles knitted together, creating a Frankenstein of capitalist consumerism. According to Bageant (2007):

The Hologram generates tens of thousand of such social identity

keys. Having mixed and matched his newly purchased identity to his satisfaction, that kid photo digitizes it into yet another simulacrum on a camera phone and shoots it into the ionosphere to be downloaded by a similar creature gazing at the same hologram. (P. 254)

A key barrier to the attainment of humanity and the negation of oppression is the phenomena of the oppressed erecting mechanisms to defend the status quo. Freire (1970:85) termed these barriers “limit-situations.” This concept serves to explain the reasoning that individuals cling to when presented with factual information that contradicts their support of the “system.” People entrenched within a limit-situation often become agitated, fearful, uncommunicative, and even aggressive when arguments are put forth that challenge the beliefs and ideologies presented during the interaction between student and teacher as well as in society at large. When an individual is locked within a limit-situation that is a part of the overarching theme of domination, they are unable to perceive the true nature of their existence as a commodity being used by the dominant corporate culture. The argument degenerates into what they perceive to be a threat to their commonly held ideas and the notion of the “American dream.” It is in the misunderstanding and the inability to perceive what is truly taking place in the greater historical context of higher education that the attempt to build limit-situations for the maintenance of “banking” education flourishes.

It is in this dual role that professionals take up the positions of dominator and dominated, the latter being students and the former being the overarching economic system. The individual typically acquiesces to the repressive state, and in the increasingly rare occasion when one does reject an oppressive role, he or she is subjected to harsh backlash. Not only are there internal conflicts but also a conflict among the oppressed and his or her peers, family, and friends whom have not rejected the dominant elite ideals. This is due to what Freire (1970) calls the “housed or dual beings.” Downtrodden people take on the dominant values that

are prioritized by the economic and cultural elites. This internalization strengthens the fatalistic and often self-loathing feelings found within the oppressed. Moreover, the oppressed view the status of the elites as the ideal representation of success and take in the sloganized myths they are bombarded with through mass media, authoritarian households, and the educational system. It is in this instance where education is perverted and turned into a means of obtaining a position which may garner a greater level of profit, rather than an institution which promotes an environment where the oppressed join together in the pursuit of reconciliation. People are increasingly creating their own reality despite the constant revealing of social contradictions. People begin seeing the inequality but continually construct limit-situations in order to justify it, thus displacing any feelings of injustice for those on the bottom and feelings of guilt for those on top. These people surround themselves with like-minded individuals who buy into their fabricated reality, which eliminates any outside reason from penetrating the simulacra.

This falsification of truth is buttressed by the fatalistic mentality of the people struggling at the lowest end of the socioeconomic spectrum who believe that failure in school or any social institution can be attributed to faults of their own. The elevation of anomic individuality is becoming exceedingly prominent in the middle and lower classes. People are discouraged from developing so-called radical views in order to transform them from free-thinking, unique individuals into puppets, objects to be bought, sold, used, and discarded at the whim of corporate America. This in turn makes the creation of manufactured identities even that much more desirable to corporate elites because it allows people to be molded into mindless model consumers. Joe Bageant (2007) sums it up best by stating:

The corporate simulacrum of life has penetrated us so deeply it has become internalized and now dominates our interior landscape. Just as light pollution washes out the nighttime sky, so much of our

day-to-day existence has lost its depth and majesty, having been replaced by constellations of commercial images. (P. 261)

A fog of unreality has settled upon American culture, clouding our perception of the injustice found in the neoliberal form of capitalism. This simulacrum has penetrated our perceptions and thrown off our frame of reference, thus incapacitating our ability to construct an environment conducive to critical thought. We have descended into the cloud of illusion to such an extent that we are no longer able to perceive our true place in the American stratification system.

The Hologram mystifies our class culture, which in turn inhibits the ability of the people to affect any type of change in society. This mystification affects political and religious beliefs, as well as the diets, styles of dress, child-raising methods, and most importantly, the means by which we educate. Therefore, as a result individuals shun critical thought in favor of consumer ideology. As Fromm (1976:23) states, “The attitude inherent in consumerism is that of swallowing the whole world.”

Education in modern civil society has taken on the role present in many institutions found in advanced capitalist economy. This role diminishes the human spirit (humanity) by the commodification of nearly every aspect of life. The ease of production, the increased consumption to the point of waste, and the dispersion of and increase in comfort all contribute to what Marcuse, when referring to our increasingly technized culture, (1964:9) called the “rational character of its irrationality.” All of these modalities function to solidify the objectification of the natural world, including humanity, into commodities, pawns on a chessboard to be moved, sacrificed, and discarded by those who control the means of production. Humanity has begun to determine its self-value based on the extent to which it has hoarded the various objects deemed indispensable by societal standards, which, as I have previously shown, are constructed in reference to the well-being of the capitalist substructure of our society. In this instance, education has become no different than any

other object to be owned and manipulated; the participant in higher education seeks to “have” more education in order to play the chess game more effectively. Notions of enlightenment, humanity, and critical thought (especially pertaining to our economic system) are disposed of, seen as irrelevant in an increasingly technized world that places emphasis solely on so-called hard science and empirically provable facts.

The university functions under this umbrella of dominant elite interest and serves to indoctrinate and solidify the false needs required to continue the reign of oppression imposed by the power elite. This false need, in turn, is filtered into the ideologies of students through their interaction with the professor within the classroom setting. As stated earlier, the student-professor relationship takes on the undertones of the worker-owner relationship in modern civil society. Thus, all of the internalization of false need is reinforced in the act of banking education. The university’s primary purpose now is to prepare future generations of workers, in an increasingly technological society, to take up the positions once held by previous generations. All the while critical thought is not even a periphery function of higher education in terms of questioning value systems, economic policy, or political agendas. This further illustrates how the needs of the economic system, to replenish the industrial reserve army, are placed above those of the student and modern-day workers. Due to this, many professors conduct their classrooms as a type of mini-kingdom, functioning within the so-called Ivory Towers of academia.

The Elite Response to Education

Education has taken this turn toward an increasingly positivistic form of learning because it is necessary for the proliferations of the machines that have come to dominate production. Math and science are emphasized, as opposed to the arts and humanities, because of the ability of those disciplines to produce ever-more efficient means of production. These reasons are coupled with the promotion of upper-class values which place emphasis on consumerism, prompting

participants in educational institutions, specifically higher education, to adopt the cultural capital favored by the dominant group in any given society.

Higher education is especially important to the capitalist classes above all other levels of education because college further stratifies the lower classes. This stratification creates a middle class that acts as a buffer between the poorest of the poor and the very wealthy. The graduates of higher education, being far more likely to earn greater wages and benefits, are pacified by a relatively comfortable lifestyle that makes them far less likely to view themselves as oppressed. This, along with the solidification of the dominant cultural values and norms, creates tension between the so-called middle class and lower classes, taking away attention from the numerical minority who enjoy a level of wealth that is several hundred times that of the average worker.

This dehumanization is systematically implemented for specific reason, although, despite upper-class manipulation, education still holds the potential for justice and the negation of the intellectual repression. The corporate elite class, being well aware of this, takes action accordingly. To further qualify this statement we can simply look at the severe budget cuts to our nation’s educational system while our military budget has skyrocketed. To elaborate on this and address why education is seen as such a great threat to capitalist economy we can examine attacks on higher education by taking note of certain historical facts.

For example, Noam Chomsky (1999), in *Profit Over People: Neoliberalism and Global Order*, brings attention to the expanded engagement in higher education during the sixties and seventies and the subsequent capitalist move to reverse the trend. Chomsky (1999:60) states, “The Trilateral Commission, founded by David Rockefeller in 1973, devoted its first major study to the ‘crisis of democracy’ throughout the industrial world as large sectors of the population sought to enter the public arena.” Chomsky went on to say, “Of particular concern to the Commission were the failures of what it called the institutions responsible ‘for the indoctrination of the young’: the schools, universities, and churches.” This Com-

mission, comprised of capitalist elites, pushed forth policy in order to blunt participation in education and also to help shift the purpose of education to its new role as a capitalist tool in an advanced industrial society. Furthermore, Herbert Marcuse (1964:21) states, in reference to capitalist ability to mobilize against the communist threat in the sixties, “Mobilized against this threat, capitalist society shows an internal union and cohesion unknown at previous stages of industrial civilization.”

The ability of the capitalist class to mobilize with the unity and cohesion in opposition to any perceived threat also includes the threat found within higher education. High-powered lobbies and political action committees (PACs) are put into action in order to push and promote policy that strips funding away from educational institutions. This causes a ripple effect that has many severe consequences in regards to the ability of people to attain higher education, let alone an education with a critical perspective. Due to increases in tuition that result, in part, from lower government support and lack of available funds, fewer people will be able to afford a college education. Also, professors will typically be paid less or far more adjunct faculty will be hired, which could have a twofold effect: (1) Adjunct faculty are less likely to teach in a way that criticizes the bureaucratic structure of the university for fear of losing their positions. This can be done easily to nontenured employees as opposed to tenured faculty. (2) The remaining tenured faculty are further inundated with work because of a decrease in full-time professors to share in the administrative functions of the department. This increased workload could have several outcomes. The professor could potentially be overwhelmed with extra work that he or she is unable to develop adequate lesson plans that are suited to problem posing education. Another possible outcome could be a build-up of frustration due to feelings of insignificance stemming from higher work volumes without increases in remuneration, as well as the cynicism that develops from what appears to be a losing effort on the part of the problem posing educators. All of these potential

issues, along with many others that arise from the assault on education, are done purposefully and strategically.

To clarify why this is done one must address why education is seen as such a great threat. While education has been increasingly used as a means of streamlining the transition from student to worker, viewed from a dialectical standpoint, education also has the power to reverse this process and negate the perpetuation of that antagonism.

Dialectics is a method of viewing and analyzing the interplay of various, and in many instances, opposing aspects of a given situation in terms of the negative. Negative dialectics allows a critical thinker to create a means of solving social issues by identifying the characteristics in any given situations that are detrimental to both structure and agency. By identifying these negatives, one is able to work toward the elimination of those aspects of any given object of knowledge. Thus, one can move society that much closer to the negative of oppression, which is freedom. For example, one may not be able to articulate what a utopian society will be like because such a notion is complex and does not account for the individuality of people's notions of such a society. However, one is able to determine more easily the inhumane and unjust aspects of a given society for the purpose of eliminating them. Things such as poverty and violent crime are societal aspects that, if negated, would by definition bring society closer to an ideal form. Also, for this to be done one must also work to reshape the societal apparatuses and institutions that are already in place in order to affect any significant type of change. As Herbert Marcuse (1964:23) states, "Thus, the negations exists *priori* to the change itself, the notion that the liberating historical forces develop *within* the established society is a cornerstone of Marxian theory."

In modern civil society the more efficient the means of production become, the less humanely people are treated. For example, one would not be hard pressed to assume that as efficacy of production rises so does an increase in free time as well as a decreased in physical strain and mental exhaustion. However, what has actually taken place is in direct contrast

to such an assumption. This is due to the capitalist mania for ever-increasing profit margins, which has led to a culture founded on the basis of unlimited consumption. Regardless of the ease and expanded capabilities of the production process, people who control those means remain unsatisfied even though the acceptable level of productivity is increased. The increase in production takes up any slack afforded by more efficient means of production. For example, if one man could once produce 1000.00 of wealth per hour and can now produce twice that, rather than accepting the 1000.00 per hour and giving the worker more free time or higher wages, they simply increase the quota to match the increased ability to produce. The result is the worker works the same amount of time, or longer, and the owners simply reap the benefits of increased productive capability. Accordingly, higher education has become a means by which people can learn the techniques and cultural behaviors that (1) allow for them to be able to operate and maintain the technology necessary for the expanded production, and (2) preserve and strengthen dominant values that serve to keep the workers docile and stagnate critical thought. Herbert Marcuse (1964:1) takes note of this trend by stating, "To the degree to which freedom from want, the concrete substance of all freedom, is becoming a real possibility, the liberties which pertain to a state of lower productivity are losing their former content."

As mentioned earlier, Erich Fromm's marketing character plays a vital role in the conceptualization of what education is in modern civil society. Fromm (1976) elaborates on this notion by stating:

The marketing characters' lack of attachment also makes them indifferent to things. What matters is perhaps the prestige or the comfort that things give, but things per se have no substance. They are utterly expendable, along with friend or lovers, who are expendable, too, since no deep tie exists to any of them. (P. 122)

Capitalistic hegemony has devoured our capacity to see beyond the power,

prestige, and control that accumulating things has as its main motivating factors. There is no internalization of education as a means of leading out of obsolete traditions and conventional thinking and toward revolutionary ideas and concepts. Education then becomes a tool in which the degree becomes nothing but another status symbol. It is a symbol used to acquire wealth by painting one as more productive; a symbol used to stratify people so that those with a degree can look down upon those without (another form of control and dominance); a symbol that justifies, for those with degrees, why they are *better* and should be *given* more rewards. All of these symbols that a degree has come to represent are a far cry from what achievement in higher education should symbolize.

Upon earning a degree, graduates should be more understanding of the plight laid upon their fellow human beings in the form of social injustice. One should be more proficient at the art of critical thinking, which at its core is an activity that promotes positive change. One should be, as Marx would say, more expressive of life and thus less alienated from the world and others. Our task then, as critical thinkers who have become more in touch with our humanity, is to speak truth concerning the state of education and the possible outcomes if no true praxis is put forth.

Education, Capital, and Humanity

All animals live but only humans exist. We strive for transcendence from our animal instincts, however blunted and tucked into our subconscious they may be. We are able, unlike other animals, to separate our life's work from our inner-selves, thus allowing for true reflection of own inner-self as objects of inquiry. No other animal has the capacity to reflect upon itself and the object of its pursuit of knowledge. This fundamental observation encompasses the spirit of humanity. We are historical beings who actively contemplate the actions we take as well as the consequences of those actions. This is opposed to the remainder of the natural world, which is comprised of ahistorical animals whose life activity is merely a means of survival. This di-

chotomy illustrates the nature of people's species-being, our humanity, which is to be achieved rather than inherited.

People's life activity is defined by their species character. People's species character is comprised of reason; consciousness of one's own species, as well as all others as an object subject to one's influence; and the free pursuit of conscious, unfettered activity, spirituality, and beauty. Thus, once people's life activity ceases to be under their control (i.e. estranged labor), they are robbed of their species being (humanity) because the work is perverted into a means of satisfying physical need rather than a transcendent pursuit of one's true self and humanity.

Furthermore, this individualistic, survival-based life becomes the norm in capitalist society, thus proliferating the decimation of people as a species. Marx (1988) states:

The object of labor is, therefore, the objectification of man's species life: for he duplicates himself not only, as in consciousness, intellectually, but also actively, in reality, and therefore he contemplates himself in a world that he has created. In tearing away from man the object of his production, therefore, estranged labor tears from him his *species life*, his real species objectivity, and transforms his advantage over animals into the disadvantage that his inorganic body, nature, is taken from him. (P. 77)

The nature of work in a capitalist economy removes people's life activity and contorts it into a means of survival rather than a means of reflective growth and transcendence. Thus, by way of the antagonism between worker and owner, formed by the relationship each has to the means of production, working class people experience the dehumanization characteristic of any economic model in which unlimited consumption is the ultimate goal.

Karl Marx in *Economic and Philosophic Manuscripts 1844* (1988) elucidates on the betrayal of critical thought by class antagonistic materialism that is indicative of higher education in modern

civil society. He states, "The raising of wages excites in the worker the capitalist's mania to get rich, which he, however, can only satisfy by the sacrifice of his mind and body" (1988:23). When using Marx's analysis in reference to the university we see how students in particular, having spent their entire lives subject to intellectual repression and in deference to the dominant cultural ideals, find themselves fettered with the burden of suppressing their own curious nature and true interests in favor of those careers that will potentially garner the most stable financial future. Often students chose their majors because it is a "good" profession that they will be financially successful pursuing, as opposed to individuals who take up the arts, humanities, and social sciences. In this case "good" means what is accepted by a predominantly capitalist value system. People are then funneled into careers that are more beneficial to the economic substructure of our society than to their own personal happiness. The arts and humanities hold the seeds of passion and curiosity; the creative, transcendent, and dynamic mode of being that inspires critical thought, as opposed to the cold, cybernetic, and overtly positivistic pedagogical curriculum which is presently favored and implemented by capitalist elites.

People in this system do not own their work, they do not control it, and it does not belong to them but to others. They produce out of necessity, not out of freedom, which then becomes self-estrangement. Marx believed that once people's work is taken out of their control and what they produce no longer belongs to them that their humanity is lost. In modern civil society people's work is no longer done in freedom; it no longer has the aesthetic, warm quality found when one owns and gains dignity and purpose from one's work. It is cold and lifeless work commissioned at the whim of others under pain of degradation, subordination, and disrespect. In order for people to achieve their humanity, their work must once again become their own. Higher education has been so tightly linked to employment and financial success that it must be in that institution where these notions are reinstated. Karl Marx (1988:77), in support of true

production in freedom, stated, "Man produces even when he is free from physical need and only truly produces in freedom therefore."

To coincide with the increasing technological capabilities of our society, we must begin to create new modes of social action and praxis. Marcuse (1964) believed that due to the expansion of technology, economic, political, and intellectual freedoms have become so much more complex than traditional definitions that we must create new ways of conceptualizing what they mean. Marcuse argued that as societies advance, old paradigms that housed the concepts of economic, political, and intellectual liberties must be reanalyzed because of their inherent importance to humanity's well-being, purpose, and freedom. Marcuse further argued that the only means of reconceptualizing what these liberties mean in modern civil society was through negative thinking, because any new ideas corresponding to these notions would negate the existing models of thought. To support this mode of dialectical negation Marcuse (1964) stated:

Economic freedom would mean freedom from the economy—from being controlled by economic forces and relationships; freedom from the daily struggles for existence, from earning a living. Political freedom would mean liberation from politics over which they have no effective control. Similarly, intellectual freedom would mean the restoration of individual thought now absorbed by mass communication and indoctrination, abolition of "public opinion" together with its makers. (P. 4)

By this he meant that a certain amount of labor was once necessary in order to produce enough for all of society to function in a civil manner. However, now that technology has allowed the ability to produce to skyrocket, rather than allowing the expansion of personal freedom to coincide with it, the capitalist classes have placed ever-increasing profit margins above the rights of the working people. It is because people no longer need to spend the majority of their

time working to produce necessities that we must reconceptualize what it means to be free. Unless this is done, man will constantly be working rather than having his labor allayed in favor of freedom.

It is from this view that Marcuse (1964) invokes the mode of thinking known as the “negation of the negative.” Specifically, Marcuse believed we must “restore individual thought” by negating the culture of mass communication and social indoctrinations that has run rampant in our society. In the process of analyzing our educational institutions, the positive is found in the negative. Simply stated, while higher education has been increasingly used as a means of streamlining the transition from student-professor to worker-owner, viewed from a dialectical standpoint, education also has the power to reverse this process and negate the perpetuation of that antagonism.

Dialectical negation is a method of viewing objects of knowledge in terms of the negative. Negative thinking allows an individual to establish a means of solving social issues by identifying the characteristics in any given institution that are detrimental to critical thought and the attainment of one’s humanity. By identifying the negative aspects of any social institution, one is able to work toward the elimination of those characteristics, thus moving society that much closer to the negative of oppression, which is freedom.

Marcuse, in *One-Dimensional Man* (1964), further suggests that the reason these statements sound like utopian dreams is precisely because of the strength of the forces working to hold them in the light of pure left-wing rhetorical fantasy. It is specifically due to this that educational institutions must be reformed immediately. Second to the family, education is the social institution that holds the most sway over the mode of thinking an individual adopts as he or she grows into adulthood. If in that institution people are told that such an existence is unrealistic, then what measure could anyone truly be expected to take in order to reach such a level of enlightenment?

One’s desire to attain something is positively correlated to his or her ability

to imagine it as a real possibility. For example, one would not have a realistic goal to be able to run 100 miles per hour. Similarly, if one believed that these seemingly unfeasible goals of freedom from economy politics and intellectual oppression were unattainable, he or she would not be able to truly commit to any praxis in which that goal would be the ultimate end. In support of this argument, Marcuse (1964:4) stated, “The most effective and enduring form of warfare against liberation is the implementing of material and intellectual needs that perpetuate obsolete forms of the struggle for existence.” By this Marcuse means that what we are taught is realistic and inevitable will ultimately be the end that we work toward. If we were taught that equality and freedom, in all its forms, are realistic and good, then we would work and strive toward that mode of being. Conversely, as people are taught to accept what they are given, work without question, and agree with the dominant societal views that are strategically implemented by the capitalist elite, then that is what they will aspire to do.

The act of transforming a classroom must take place before the professor even steps foot into the situation. The foremost and seemingly most difficult challenge is to view each participant in the classroom as an active, valuable member. Each individual classroom then becomes a sort of micro learning community (MLC) within the university. Each MLC then functions with the professor’s realization that each student, by actively engaging in the discourse and having his or her opinions valued, will contribute to the overall level of critical thinking and learning potential. Even though the professor must take responsibility for the environment because of the rational authority possessed from his or her advanced knowledge of the given discipline, he or she is still able to engage students rather than depositing information in them. This engagement negates the preexisting simulacrum that views the educational process as a static and unchanging thing. Just as people are not static beings, neither can the means by which we educate remain inert. Viewing education as an unchanging thing, stuck in the past tradition and old methodology,

is transforming the living and transcendent quality of true education into a dead, insensitive, and dehumanizing process.

Reconciliation of Educational Systems

It is in the exposure to critical theory and praxis that students can begin to reclaim their status as people to be educated and cease the cycle of objectification that is prevalent in modern educational institutions. Also, by reclaiming the right to true problem posing education and humanity, students assist in the emancipation of their professors. Freire (1970:38) qualifies this by stating, “As the oppressed, fighting to be human, take away the oppressors’ power to dominate and suppress, they restore to the oppressors the humanity they lost in the exercise of oppression.” Just as the process of oppression, the suppression of critical thought and true words, and the proliferation of Fromm’s “to have” mode of existence were cyclical, reinforced with each generation, so too is the act of redemption.

The reclamation of one’s humanity begins after the gears of critical thought and praxis are set in motion. The students work to reclaim their humanity, thus assisting in the professors’ reconciliation. The professors then teach, by means of problem posing pedagogy, a questioning and engaging mentality to their student. This newly developed critical lens is comprised of true words, active dialogue, and a critical perspective of societal issues. This allows for greater progress toward a truly reconciled system of higher education.

The defeat of oppression must be preceded by the naming, with the use of “true words,” of that injustice. Words then become a dialogue through which men and woman actively engage in reclaiming their rights as human beings. The reclamation of language that allows for our dreams to become concrete is the avenue by which people break the silence that has been forced upon them through a terribly dehumanizing system of banking education. To name the injustice, to break the silence, to expand one’s vocabulary with the understanding of the words, complete with knowledge of the reflective and active potential they

embody, is to regain one's significance as a human being.

Humanity is built upon dialogue, the willful communication of human experience. Thus, true dialogue cannot exist unless all parties wish to actively participate. Dialogue cannot take place between those who wish to be educated in a manner that allows for critical thought and those who wish to proliferate a method of education that impoverishes one's ability to think, to create, and to imagine a more reconciled society and system of higher education. It is in communicative action and power that the oppressed break the shackles holding them in their prisons of capitalist consumerism and anti-intellectualist culture. As Freire (1970:69) states, "If it is in speaking their word that people, by naming the world, transform it, dialogue imposes itself as the way by which they achieve significance as human beings. Dialogue is thus an existential necessity."

The liberation of the oppressed through education cannot be done for the oppressed; it must be a cooperative initiative which values the humanity, creativity, and critical thought of each person involved. As Freire (1970:60) states, "Authentic liberation—the process of humanization—is not another deposit to be made in men. Liberation is a praxis: the action and reflection of men and women upon their world in order to transform it." Freire goes on to state that we must develop our consciousness: "consciousness as consciousness intent upon the world." We must begin to view our lives, ambitions, problems, values, and traditions in the broader sociohistorical context. If that is to be achieved we must evoke our sociological imagination to practice a type of reflexive inquiry into how we have come to be the way we are.

A shortcoming of the pursuit of critical thought is often the misconception that our topic of study is impacted by all these social forces, but somehow we (the knowers) are unaffected by the various forces which we are attempting to explain. Therefore an introduction to problem posing education must be preceded by the negation of this student-professor dichotomy that is present in modern civil society. An iconoclastic approach to this relationship is necessary; the negation of

traditional roles of students and professors is essential. Once this outdated style of education is resolved, the relationship can take on new forms and become one in which both the student and the professor learn from each other. A type of mutual ownership over the process of education then becomes the norm, and the transformation of students into objects, containers to be filled rather than people to be educated, is negated in favor of a more reconciled humanistic approach. Moreover, this approach enriches the student-professor relationship by creating an environment in which each participant adapts to the other, thus finding new and inventive ways of communicating, solving problems, and synthesizing and analyzing information.

Conclusion

The original questions that sparked the inquiry into the contents of this analysis centered on the nature and purpose of education. More specifically, is education meant to be a liberational life dynamic means of being led out of anti-intellectualism, unreason, superstition, ignorance, and fear toward wisdom, rationality, understanding, justice, and freedom? Is it this purpose which is in line with the etymological genesis of the word "educate" that means "to lead or draw out," "to grow or become," "to develop potential"? Conversely, is the purpose of education simply a means of commanding greater wealth?

The authors have shown that education is indeed a means of leading out of conventional thought, a transcendent dynamic process of achieving one's humanity. However, the authors have also shown that education in modern civil society does not fit into that definition. Indeed higher education has been transformed into a means of streamlining the transition from the student-professor relationship to the worker-owner relationship in modern civil society. This transition has its nexus within the classroom, hallways, and offices of the university and in the relationship between the professor and student. This antagonistic relationship does take on the mantle of the worker-owner relationship that promotes oppression and dependency as staples of the

modern "banking" style of educating.

Higher education and the student-professor relationship, while stagnated by our repressive economics, politics, and materialistic culture, remains our greatest hope for reconciliation. Rather than being led toward an increasing state of total administration we must work to promote knowledge. Knowledge is not forged within Ivory Towers and on the intellectual battlefields of academia; it is formed in the spaces between people and their drive to become more than what they are. We must pursue and create knowledge despite the seemingly insurmountable odds standing against us. We must pursue it tirelessly, and as Paulo Freire (1970:53) states in *Pedagogy of the Oppressed*, "Knowledge emerges only through invention and reinvention, through the restless, impatient, continuous, hopeful inquiry human beings pursue in the world, with the world, and with each other."

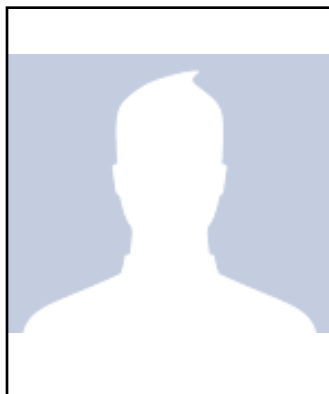
References

- Bageant, Joseph. 2007. *Deer Hunting with Jesus: Dispatches from America's Class War*. New York: Crown Publishing.
- Bennett, Andy and Keith Kahn-Harris. 2004. *After Subculture: Critical Studies in Contemporary Youth Culture*. New York: Palgrave Macmillan.
- Chomsky, Noam. 1999. *Profit Over People: Neoliberalism and Global Order*. Ontario, Canada: Turnaround Publisher Services Ltd.
- Darder, Antonia, Rodolfo D. Torres, and Marta Baltodano. 2003. *The Critical Pedagogy Reader*. New York: RoutledgeFalmer.
- Domhoff, William G. 2002. *Who Rules America? Power, Politics, and Social Change*. New York: McGraw-Hill.
- Ehrlich, Paul and Anne Ehrlich. 1970. *Population Resources Environment: Issues in Human Ecology*. San Francisco, CA: W.H. Freeman and Company.
- Freire, Paulo. 1970. *Pedagogy of the Oppressed*. New York: Continuum Publishing Company.
- Fromm, Erich. 1968. *The Revolution of Hope: Toward a Humanized Technology*. New York: Harper and Row.
- , 1973. *Anatomy of Human Destructiveness*. New York: Henry Holt and Company LLC.
- , 1976. *To Have or To Be*. New York: Continuum Publishing Company.
- Henslin, James M. 2005. *Sociology: A Down-To-Earth Approach*. 7th ed. New York: Pearson.
- hooks, bell. 1994. *Teaching to Transgress: Education as the Practice of Freedom*. New York: Routledge.
- Illich, Ivan. 1970. *Deschooling Society*. New York: Marion Boyers Publishers Ltd.
- Kerbo, Harold R. 2006. *Social Stratification and Inequality: Class Conflict in Historical, Comparative, and Global Perspective*. New York: McGraw-Hill.
- Krishnamurti, Jiddu. 1969. *Freedom from the Known*. New York: Harper Collins Publishers.
- Marcuse, Herbert. 1964. *One-Dimensional Man*. Boston, MA: Beacon Press Books.
- Marx, Karl. 1988. *Economic and Philosophic Manuscripts of 1844*. Amherst, NY: Prometheus Books.

Global Positioning System (GPS) Determination of Motions, Neotectonics, and Seismic Hazard in Trinidad and Tobago



Anthony B. Rodriguez
McNair Scholar



John C. Weber, Ph.D.
Faculty Mentor

Abstract

The twin island nation of Trinidad and Tobago is located in the actively deforming Caribbean-South American (Ca-SA) plate boundary zone. Geodetic GPS work over the past decade has accurately determined present-day Ca-SA relative plate motion. This work (Weber et al., 2001; Perez et al., 2001; Lopez et al., 2006) clearly shows the Caribbean plate today moves approximately eastward relative to the South American plate at ~20 mm/yr.

Earthquakes do not mark the active faults in Trinidad; however, a low-precision triangulation-to-GPS comparison at 23 sites showed that significant strike-slip faulting is probably occurring on the Central Range Fault (CRF) (Saleh et al., 2004). The lack of recent seismic activity on the CRF might indicate that the fault is elastically locked. Locked faults tend to store motion and then release it in infrequent big earthquakes, whereas creeping faults produce more continuous small earthquakes. A future large earthquake is therefore possible in our study area. Our research looks at Trinidad's neotectonics using new GPS data from 19 high-stability sites that were built and measured in 2005, then measured again in 2007, and also includes data from a few sites that go back to 1994. These new data allow us to refine previous results from the lower-precision geodetic work. We intend to better quantify the rate of slip across the CRF and its mechanical behavior. We used campaign-style GPS field measurements collected by coauthor Weber and associates at the University of the West Indies. We compiled these data and processed them using GIPSY/OASIS II (Release 5.0) software at the University of Miami RSMAS Geodesy Lab. We find that in a South American reference frame sites north of the CRF move at about 20 ($\pm 1-5$) mm/yr; sites south of the CRF are stationary ($\pm 1-8$ mm/yr). Tobago site velocities are slightly oblique to the overall Caribbean plate motion due to a

major (magnitude 6.7) earthquake that had occurred off Tobago's south coast in 1997. Our results support the hypotheses that the CRF is an active strike-slip fault. We find that sites in Tobago and northern Trinidad are on the Caribbean plate and move at a rate of about 20 mm/yr eastward (relative to South America). Sites in southern Trinidad move slowly if at all relative to South America. We are fitting locked fault (elastic dislocation half-space) models to these data; this will allow us to look more closely at the mechanical behavior of the CRF and to establish whether it is locked or creeping to help evaluate its seismic hazard. This could be an important factor in determining the safety of citizens living in Trinidad and Tobago.

1. Introduction

Neotectonics is the study of motions and deformations of the Earth's crust taking place today. This study looks at the neotectonics in the actively deforming Trinidad and Tobago segment of the boundary between the Caribbean and South American plates (Figure 1). This region is geologically complex and consists of several accreted terranes and belts (Figure 2). This accounts for the starkly different geology of the two islands that form this twin-island nation. A fold-thrust and strike-slip belt is exposed in central and southern Trinidad and formed when Ca-SA motion was likely obliquely convergent (59 to 12 million years ago); then, nearly pure strike-slip transform faulting began about 5-10 million years ago as the plates stopped converging and started sliding sideways past one another (Pindell et al., 1998). Rocks north of the fold-thrust and strike-slip belt found in the Northern Mountain Range make up the internal, or hinterland, part of the Caribbean-South American orogen. Tobago's oceanic-arc-forearc lithosphere was wedged into the hinterland rocks during the early oblique plate convergence phase discussed

above. The Tobago-South American continental boundary has been reactivated and inverted neotectonically and is now an active dextral-normal fault where sinking of dense, gravitationally unstable Tobago oceanic arc-forearc lithosphere is occurring (Weber, 2005).

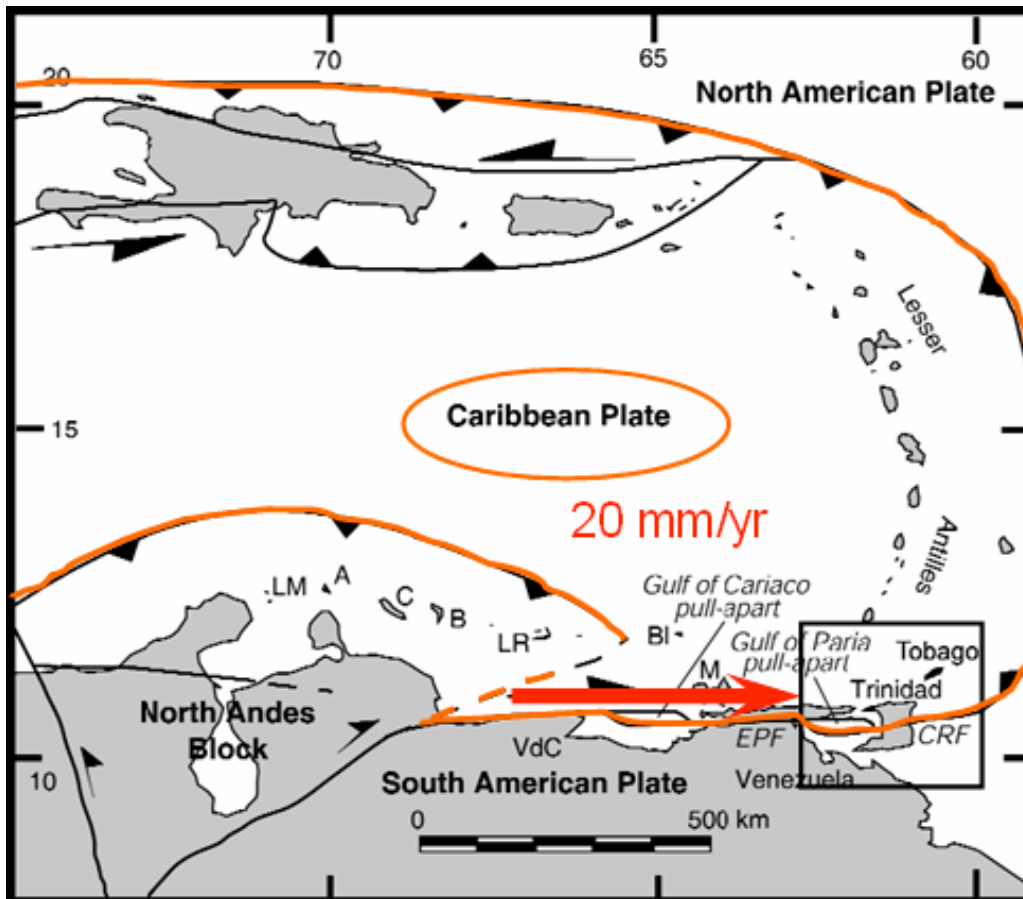


Figure 1: Present-day plate tectonic setting of study area. The Caribbean plate (outlined in orange) moves at ~20 mm/yr eastward relative to the South American plate. The Central Range Fault (CRF) in central Trinidad (in box region) is the active strike-slip fault we study here. Modified from Weber (2005).

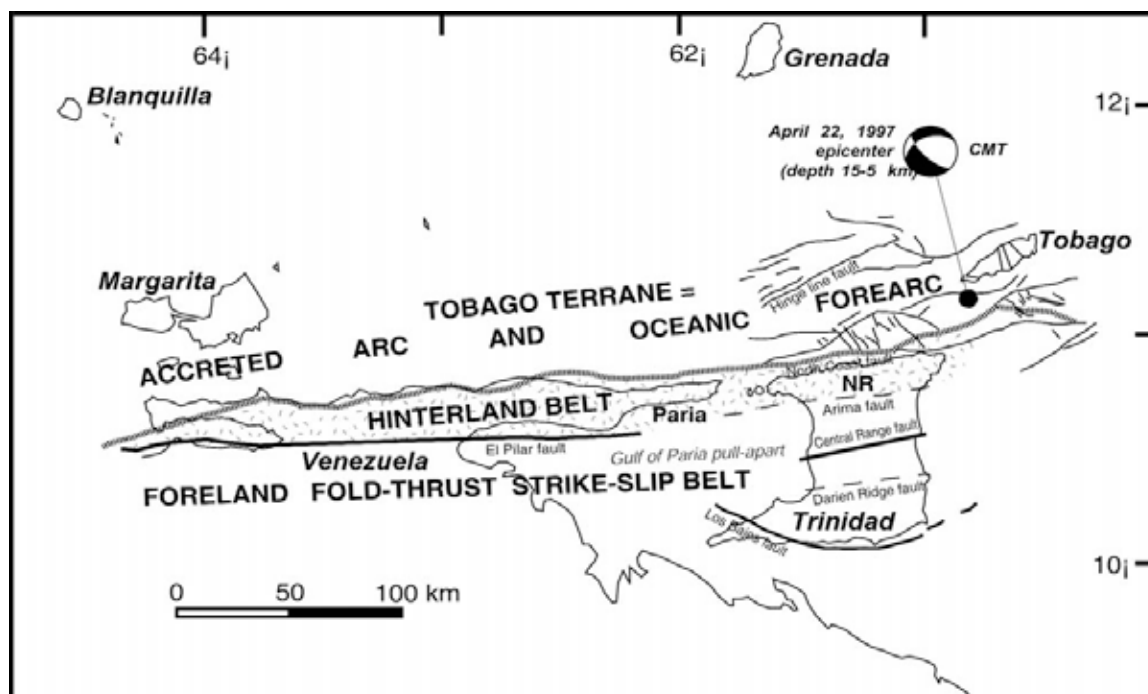


Figure 2: Foreland fold-thrust and strike-slip belt, hinterland belt, and Tobago terrane are ~east-west trending lithotectonic belts that were accreted prior to 5-10 Ma during oblique Caribbean-South American plate convergence. Today the Ca-SA plate boundary is a sliding plate boundary. The active strike-slip faults such as the El Pilar Fault in Venezuela and the Central Range Fault and Los Bajos Fault in Trinidad are also shown. The Gulf of Paria pull-apart basin is also an active structure. The CMT and NEIC epicenter and focal depth of the 1997 Tobago earthquake are also plotted on the map. Modified from Weber (2005).

Recent GPS (Global Positioning System) studies have accurately determined the relative plate motion between the Caribbean plate and South American plates; they move ~east-west, with a dextral motion at 20 mm/yr (Figure 1) (Weber et al., 2001; Perez et al., 2001; Lopez et al., 2006). Limited GPS data and 1901-1903 triangulation data showed that the CRF currently accommodates ~75% of the sliding plate motion by strike-slip faulting (Weber et al., 2001; Saleh et al., 2004). Important features that support the hypothesis of an active strike-slip CRF in Trinidad are the dextrally displaced streams and paleoseismology trenches which showed that the CRF cuts Holocene material (Weber, 2005).

Historic and instrumentally recorded earthquakes are heterogeneously distributed in the Caribbean-South American plate boundary zone and do not define the location of active faults in Trinidad such as the CRF. Such an absence of earthquakes is common for locked faults, which have the potential for producing large-magnitude earthquakes. GPS, however, can be used to “see” strain accumulating across locked faults and can therefore help us better determine the seismic potential of the CRF. In this study we use GPS to study active deformation in Trinidad and Tobago to test the recent claim that the Central Range Fault is a locked strike-slip fault storing motion at a rate of about 12 mm/yr (Weber et al., 2001; Saleh et al., 2004).

2. Methods

Geodesy is the science of determining the size and shape of the whole Earth and small parts of it and how they change. Geodesy combines mathematics, physics, and computer science (Figure 3). With the emergence of GPS, geodetic scientists are now routinely able to measure the motion of points on the Earth’s surface and study near-fault crustal deformation and earthquake processes to a ~millimeter per year precision. GPS has revolutionized the study of crustal deformation in broad, complex continental plate boundary zones, like the Ca-SA plate boundary zone, and has led to precise measurement of relative plate motion at convergent and other plate boundaries where global plate motion models had previously provided poor constraints (e.g., Norabuena et al., 1998).

GPS is a satellite-based radio-navigation system made up of over 24 transmitters put into orbit at an altitude of about 20,000 km in six orbital planes with 12-hour periods by the U.S. Department of Defense. Simultaneous observation of four or more GPS satellites is possible in virtually all parts of the globe. GPS uses these “manmade stars” as reference points to calculate the motion of ground positions to millimeter-per-year precision. This study uses GPS data to study motions and neotectonics in Trinidad and Tobago.

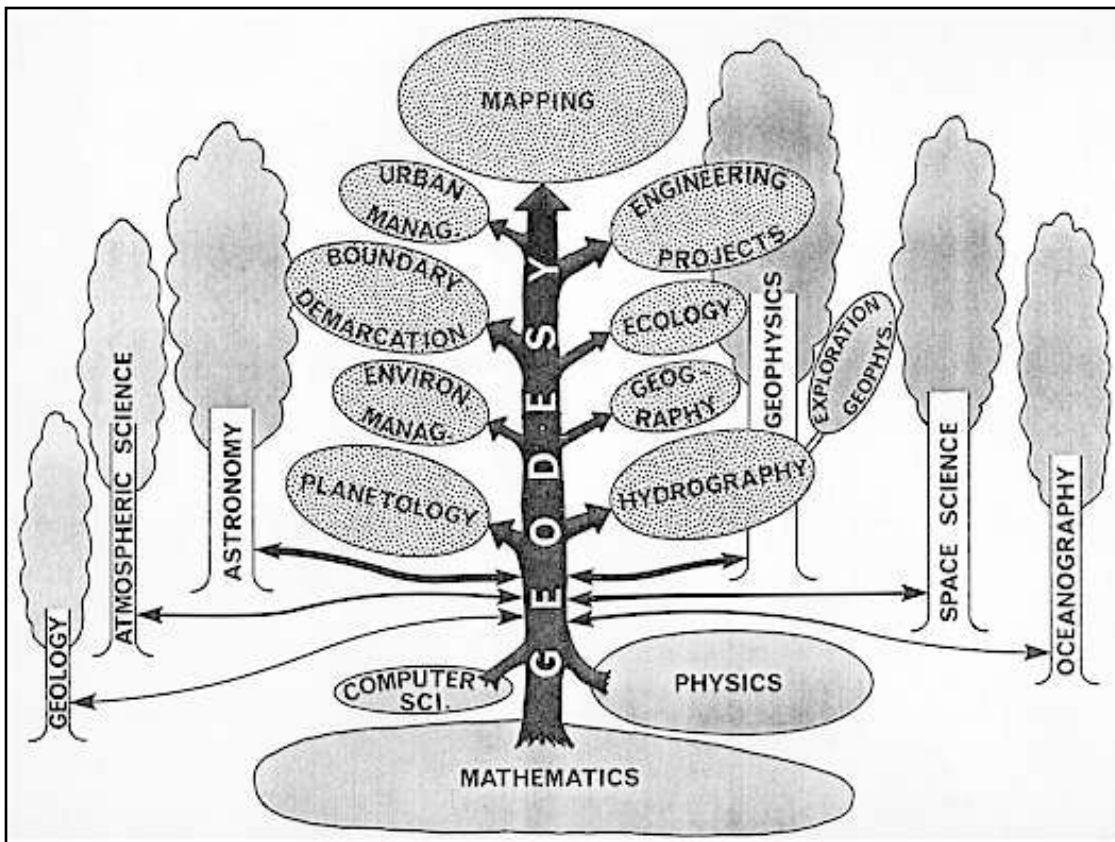


Figure 3: Geodesy makes use of mathematics, physics, and computer science. It branches out into other disciplinary fields and is an important tool in the geological and planetary sciences. (gge.unb.ca)

2.1 Detailed Methods

We use field GPS data collected over the past decade (since 1994) in Trinidad and Tobago. GPS data were collected in 1994, 1998, 1999, 2000, 2002, 2005, and 2007, and were then compiled and processed in March 2008 using GIPSY/OASIS II Release 5.0 software at the University of Miami RSMAS Geodesy Lab. We will eventually use elastic dislocation models (Savage and Burford, 1973) to study the distribution of shear strain and strike-slip displacement on the surface and at depth to determine whether the CRF is a creeping or locked fault.

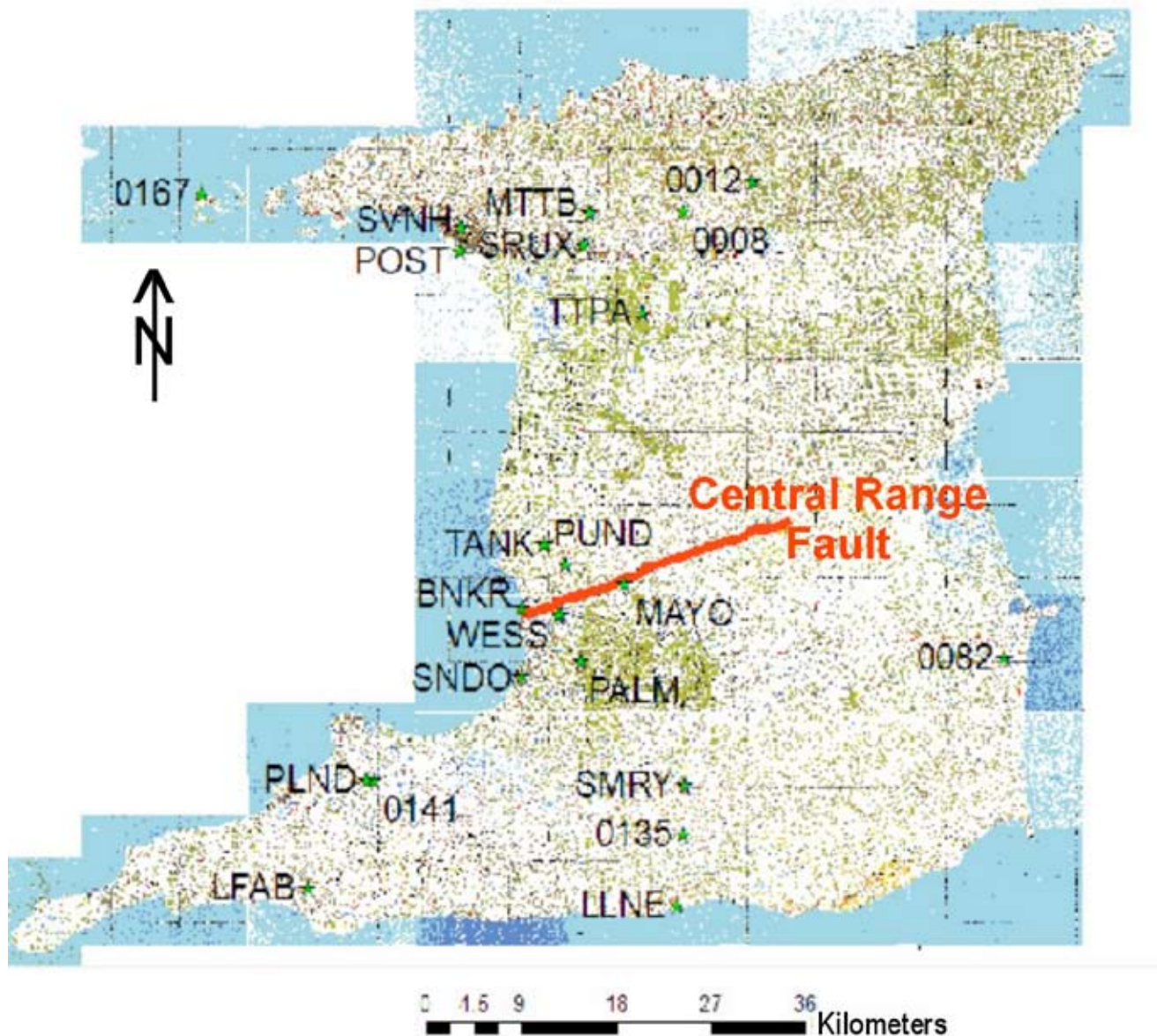
2.1.1. Field Campaigns

A network of historic (1901) British Ordnance Survey concrete pillar monuments in Trinidad were used in GPS campaigns in 1994, 1998, 1999, 2000, and 2002 (Figure 4, Table 1). Additional geodetic monuments (sites) were then constructed and measured in 2005 and

measured again in 2007 (Figure 4, Table 1). The new GPS monuments (sites) contain a steel pin that is approximately 6 inches long and 9/16 inches in diameter and is permanently inserted into a drilled hole in the large concrete structures or bedrock and secured with HY150 epoxy. The top of the rod, which contains a divot that is the exact reference point for that monument, is flush to the surface of the bedrock or concrete structure into which it is mounted. This type of monumentation, if done properly, is intended to reduce noise in the GPS data due to non-tectonic monument movement.

Table 1: Monument (site) locations and GPS occupation history. Some of the 1994 monuments were not remeasured during later campaigns. Some of the 1994 monuments were renamed and remeasured after the 1994 campaign. There are also 12 new monuments that were constructed in 2005 and measured in 2005 and 2007. *BOS stands for British Ordnance Survey 1901-1903 triangulation benchmarks.

	<u>Lat (°N)</u>	<u>Long (°E)</u>	<u>GVSU GPS Occupation History</u>
<u>1901 BOS* monuments</u>			
0008	10.681	-61.309	1994
0012	10.708	-61.245	1994
0082	10.293	-61.015	1994
0135	10.142	-61.312	1994
0141	10.190	-61.595	1994
0167	10.698	-61.752	1994
<u>Remeasured/Renamed BOS* monuments</u>			
GSP0 (0145)	10.334	-61.423	1994, 2005
LFAB (0115)	10.098	-61.658	1994, 1998, 1999, 2005
MTTB (0069)	10.681	-61.396	1994, 1998, 2005
<u>Monuments constructed prior to 1994</u>			
CAMB	11.320	-60.556	1994, 1998, 2000, 2005
FTMD	11.154	-60.843	1994, 1998, 1999, 2005
POST	10.649	-61.514	1998, 2000, 2005, 2007
SRUX	10.653	-61.400	1994, 2005, 2007
<u>Monuments constructed in 2005</u>			
BNKR	10.339	-61.459	2005, 2007
LLNE	10.081	-61.317	2005, 2007
MAYO	10.359	-61.364	2005, 2007
PALM	10.292	-61.406	2005, 2007
PLND	10.191	-61.602	2005, 2007
PUND	10.377	-61.418	2005, 2007
SMRY	10.185	-61.311	2005, 2007
SND0	10.280	-61.459	2005, 2007
SVNH	10.669	-61.513	2005
TANK	10.395	-61.438	2005, 2007
TTPA	10.594	-61.347	2005, 2007
WESS	10.333	-61.425	2005, 2007



Trinidad GPS Sites (1994-2007)

Figure 4: Geographic Information System (GIS) map of GPS sites measured during GVSU GPS field campaigns in Trinidad from 1994 to 2007. The approximate location of the CRF is also shown.

2.1.2. Data Compilation

Our first step in the UM-RSMAS Geodesy Lab was to compile all of the data we had available for the 25 sites. We present velocities for sites with more than one epoch of data and sufficient antenna information that we could do the GPS processing (Table 2).

Table 2: Site location (Latitude/Longitude) for all sites with more than 1 data epoch, at least 2 days of data, a minimum of 6 hours of data per day, and sufficient antenna height information. These are the sites for which we derive velocities.

Site	Lat (°N)	Long (°E)
BNKR	10.339	-61.459
CAMB	11.320	-60.556
FTMD	11.154	-60.843
GSPO	10.334	-61.423
LFAB	10.098	-61.658
MAYO	10.359	-61.364
MTTB	10.681	-61.396
PALM	10.292	-61.406
PLND	10.191	-61.602
PUND	10.377	-61.418
SMRY	10.185	-61.311
SNDO	10.280	-61.459
SRUX	10.653	-61.400
TANK	10.395	-61.438
TTPA	10.594	-61.347
WESS	10.333	-61.425

2.1.3. Data Processing

Initially GPS data for a total of 25 sites in Trinidad and Tobago collected from 1994 through 2007 were processed using the GIPSY/OASIS II Release 5.0 software from NASA's Jet Propulsion Laboratory (JPL) (Zumberge et al., 1997) at the University of Miami Geodesy Lab (UMGL) following methods similar to those laid out in Dixon et al. (1997) and Sella et al. (2002). GIPSY/OASIS II uses the point positioning technique to find the three-dimensional position of the monument (Dixon, 1991). Satellite orbit and clock positions provided by JPL were used. Ambiguity resolution was applied (Blewitt et al., 1989). The resulting velocities were first defined in the International Terrestrial Reference Frame IGSb00 (Ray et al., 2004). A formal procedure was used to derive site velocities with respect to South America. These velocities were then compared to previous results (Weber et al., 2001;

Saleh et al., 2004). The flow chart below (Table 3) summarizes data processing steps.

Table 3: A simplified flow chart showing the GPS data processing steps we followed at the University of Miami RSMAS Geodesy Lab using GIPSY/OASIS II (Release 5.0). Data processing was completed by remote access via University of Miami's Olympus server.

Summary of GIPSY/OASIS (GOA) II Data Processing

- Raw data from receivers
- Converted to RINEX format files
- TEQC RINEX files
- Generating Sta_Info files
- Creation of ocean loading files
- Run GOA II and process *.stacov (station covariance) and *.gd (geodetic) files (w-w/o ambiguity resolution)
- Apply reference frame transformation parameters (IGSb00)
- Creation of *.GD & *.GD.ps files (→ site velocities)
- Calculating Velocity Errors
- Transform IGSb00 → South American reference frame
- Creating and Interpreting Velocity Profile (Map) across CRF from site velocities

2.1.4. Elastic Dislocation Modeling

After determining velocities for the Trinidad and Tobago sites, we will look closely at the motions near the CRF and predict the distribution of shear strain and strike-slip displacement on the surface and at depth. In order to determine whether the CRF is a locked or creeping fault, we will use elastic dislocation models (Savage and Burford, 1973) that build the physics of elastic strike-slip locking using the following equation: $[V_{near} = V_{far} * \arctan(D/d)]$ where V_{near} is the predicted velocity at the CRF (GPS processed data), V_{far} is the overall plate motion (Caribbean-South American plate motion ~20 mm/yr), D is the locking depth (usually 10-15 km), and d is distance from the fault. Using such models, we can determine whether the slip on the fault occurs only at depths greater than D (locked fault) or is approximately uniform with depth (creeping fault).

3. Results

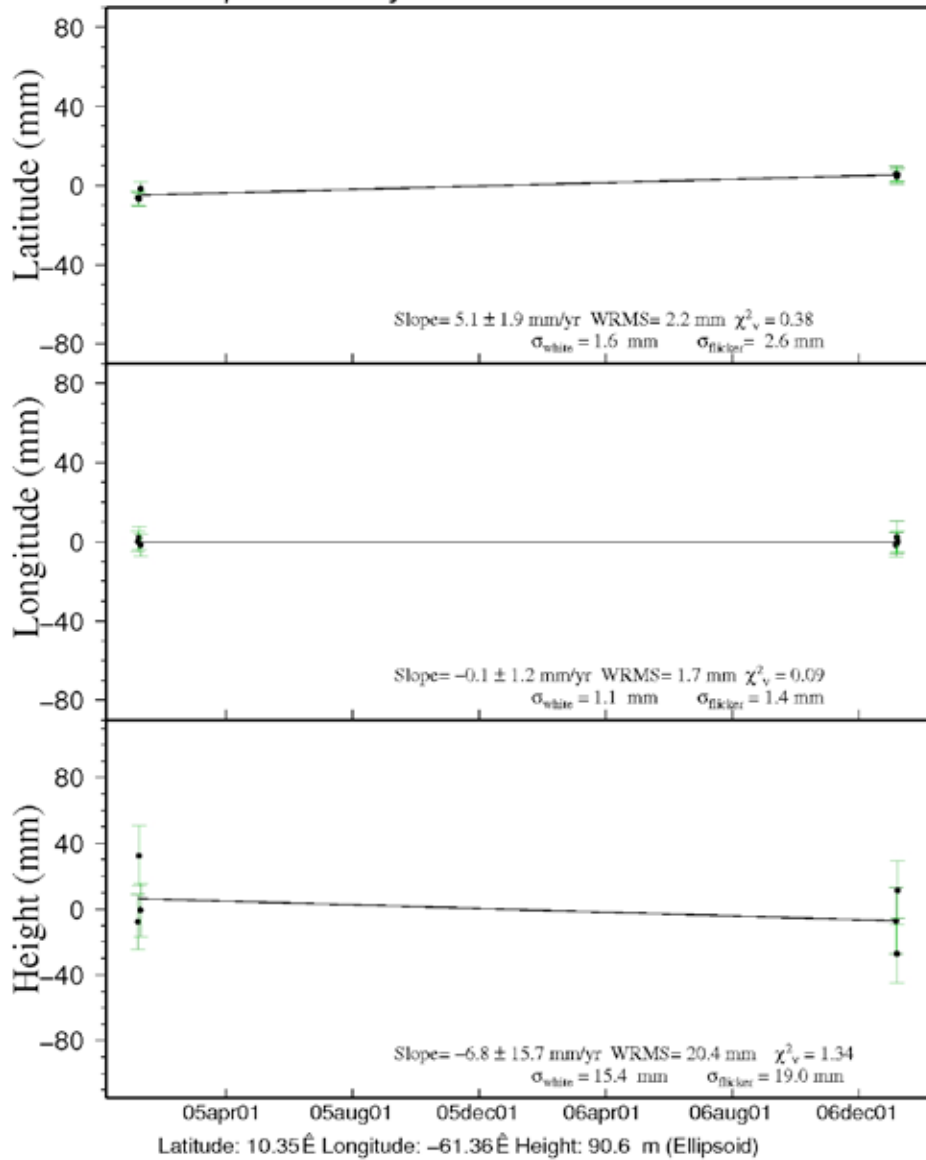
We completed a first pass through the data processing and present preliminary results here. First, we got plots showing the change in latitude, longitude, and height for each site (in IGSb00). For example, Figure 5 shows the velocity for site MAYO which is a site south of the Central Range Fault, which has a data span of 2.000 years; it was measured twice, in 2005 and 2007. Next, motions like this were referenced to the South American plate to get velocities of geologic relevance using vector subtraction (Table 4) (Sella et al., 2002). After re-referencing the sites, we created a velocity map for all but 3 sites that yielded unreasonable velocities due to antenna height issues we still need to resolve. Our preliminary velocity map (Figure 6) shows velocity vectors in a South American reference frame for each of 16 sites together with formal uncertainties (shown as ellipses).

Table 4: Site location, east velocity (V_e), east velocity error (σ_e), north velocity (V_n), north velocity error (σ_n) for 16 data sites. All velocities are shown in mm/yr relative to stable South America.

<u>Site</u>	<u>Lat (°N)</u>	<u>Long (°E)</u>	<u>V_e</u>	<u>σ_e</u>	<u>V_n</u>	<u>σ_n</u>
BNKR	10.339	-61.459	9.2	4.7	8.9	5.5
CAMB	11.320	-60.556	20.6	1.5	18.5	2.3
FTMD	11.154	-60.843	28.2	1.2	21.1	3.8
GSPO	10.334	-61.423	9.7	1.1	-3.4	2.0
LFAB	10.098	-61.658	11.3	1.2	-1.8	1.1
MAYO	10.359	-61.364	5.1	1.2	-0.1	1.9
MTTB	10.681	-61.396	12.1	1.4	12.6	1.2
PALM	10.292	-61.406	5.1	4.4	0.0	5.2
PLND	10.191	-61.602	5.2	6.7	-2.9	3.7
PUND	10.377	-61.418	7.0	3.4	10.2	2.2
SMRY	10.185	-61.311	6.4	8.0	-4.2	3.2
SNDO	10.280	-61.459	7.6	7.1	-4.3	2.6
SRUX	10.653	-61.400	12.3	1.0	12.0	0.7
TANK	10.395	-61.438	8.6	3.0	12.3	3.3
TTPA	10.594	-61.347	10.9	4.8	10.0	3.1
WESS	10.333	-61.425	3.9	1.7	-2.3	3.5

MAYO Geographical Coordinates

Time Span: 2.000 yrs N: 6 Frame: ITRF97



GMT 2008 Jul 8 18:41:20 University of Miami-Geodesy Lab

Figure 5: MAYO.GD.ps postscript file created using GMT and GISPY/OASIS II Release 5.0. Preliminary velocity plots for MAYO site showing change in Height, Longitude, and Latitude (all in mm/yr) over specified time span in the IGSb00 reference frame.

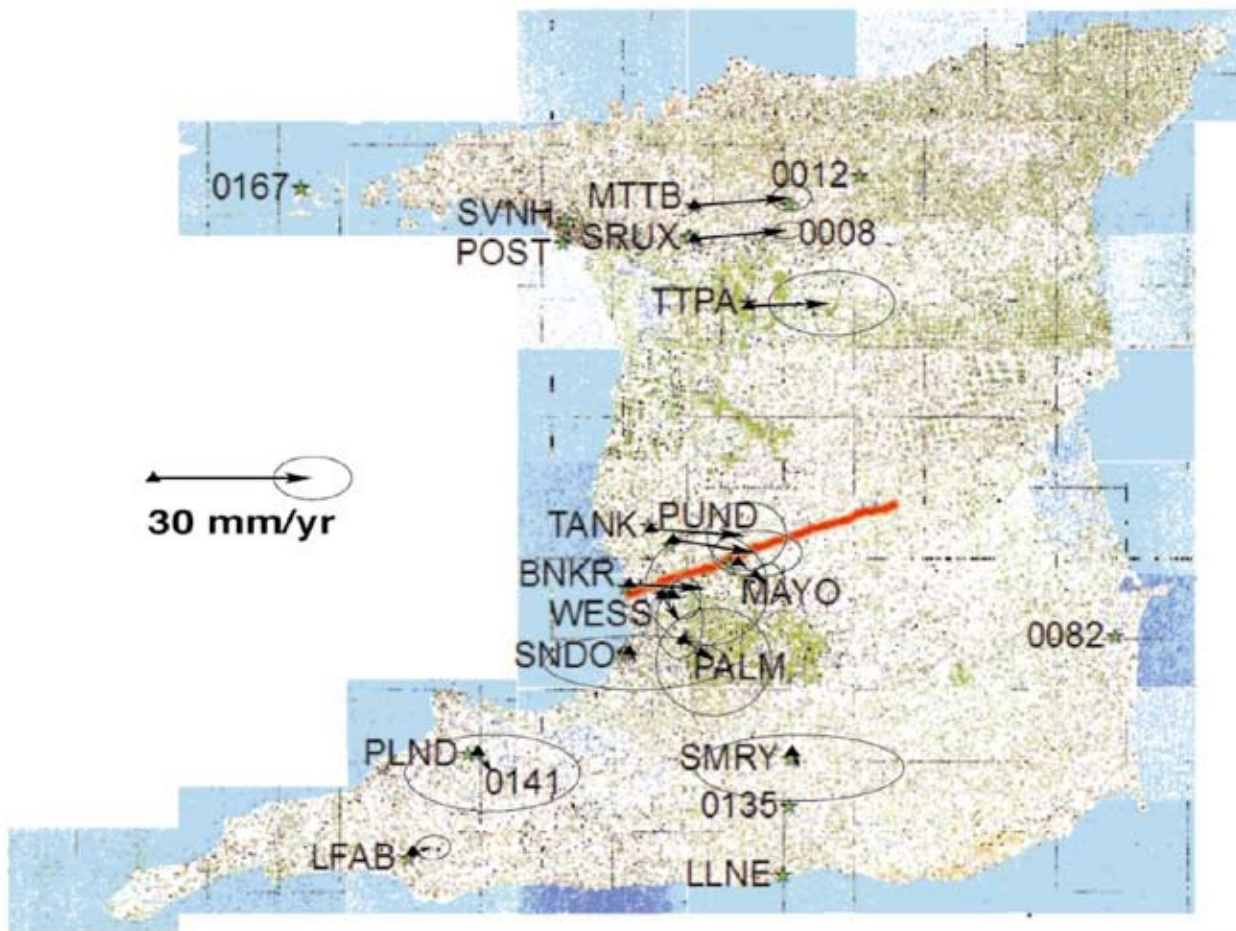


Figure 6: Preliminary velocity map showing ~20 mm/yr eastward motion of sites north of the Central Range Fault (CRF) and slowly moving or stationary sites south of CRF, in South America plate reference frame. Tobago sites CAMB and FTMD are oblique to Caribbean plate motion due to a magnitude 6.7 earthquake that occurred near the south coast of Tobago in 1997.

4. Discussion & Conclusion

Sites north of the CRF move at about $20 \pm 1-5$ mm/yr. Sites south of the CRF move much slower at $0 \pm 1-8$ mm/yr. Tobago velocities are slightly oblique to the overall Caribbean plate motion due to a major earthquake that had occurred off the south coast of Tobago in 1997; the two Tobago site velocities captured this dextral-normal event (Weber, 2005). Our new results support the hypotheses that the Central Range Fault is an active strike-slip fault and is the current Ca-SA transform plate boundary (Weber et al., 2001; Saleh et al., 2004). Sites in northern Trinidad are on the Caribbean plate and move at a rate of about 20 mm/yr eastward relative to South America. Sites in southern Trinidad move slowly if at all relative to South America.

There is a need to do more geodetic research in Trinidad and Tobago. We plan a possible 2009 GPS campaign to better determine site velocities and lower site velocity uncertainties. These data should allow us to establish whether the CRF is locked or creeping to better determine its seismic potential by lowering the uncertainty of our results. We will learn more about the mechanical behavior of the CRF by incorporating the elastic dislocation model (Savage and Burford, 1973) to the new site velocities that we find. This work is important in determining the safety of citizens living in Trinidad and Tobago.

References Cited

- Blewitt, G., 1989, Carrier phase ambiguity resolution for the Global Positioning System applied to geodetic baselines up to 2000 km: *Journal of Geophysical Research*, v. 94, p. 10187-10203.
- Dixon, T.H., and Mao, A.L., 1997, A GPS estimate of relative motion between North and South America: *Geophysical Research Letters*, v. 24, p. 535-538.
- Dixon, T.H., 1991, An introduction to the Global Positioning System and some geological applications: *Reviews of Geophysics*, v. 29, p. 249-276.
- Lopez, A.M., Stein, S., Dixon, T.H., Sella, G., Calais, E., Jansma, P., Weber, J.C., and LaFemina, P., 2006, Is there a northern Lesser Antilles forearc block?: *Geophysical Research Letters*, v. 33, doi:10.1029/2005GL025293.
- Norabuena, E., Leffler-Griffin, L., Mao, A., Dixon, T., Stein, S., Sacks, I., Ocola, L., and Ellis, M., 1998, Space geodetic observations of Nazca-South America convergence across the Central Andes: *Science*, v. 279, p. 358-362.
- Perez, O., Bilham, R., Bendrick, R., Velandia, J., Moncayo, C., Hoyer, M., and Kozuch, M., 2001, Velocity field across the southern Caribbean plate boundary and estimates of Caribbean/South American plate motion using GPS geodesy 1994-2000: *Geophysical Research Letters*, v. 28, p. 2987-2990.
- Pindell, J.L., Higgs, R., and Dewey, J., 1998, Cenozoic palinspastic reconstruction, paleoapthic evolution, and hydrocarbon setting of the northern margin of South America, *in* Pindell, J.L., and Drake, C., eds., *Paleogeographic evolution and non-glacial eustasy, northern South America*: Society of Economic Paleontologists and Mineralogists Special Publication, v. 58.
- Ray, J., Dong, D., and Altamimi, 2004, IGS reference frames: *GPS Solutions*, v. 8, p. 251-266.
- Saleh, J., Weber, J.C., Balkaransingh, S., Dixon, T.H., Ambeh, W., Leong, T., Charles, F., Wdowinski, S. and Webb, F., in revision, Neotectonics and seismic risk in Trinidad, West Indies, from historic triangulation (1901-1903) and GPS (1994-1999) geodesy.
- Saleh, J., Edwards, K., Barbaste, J., Balkaransingh, S., Grant, D., Weber, J.C., and Leong, T., 2004, On some improvements in the geodetic framework of Trinidad and Tobago: *Geodesy Review*, v. 37, p. 294.
- Savage, J.C., and Burford, R.O., 1973, Geodetic determination of relative plate motion in Central California: *Journal of Geophysical Research*, v. 78, p. 832-845.
- Sella, G.F., Dixon, T.H., and Mao, A.L., 2002, REVEL: a model for recent plate velocities from space geodesy: *Journal of Geophysical Research*, v. 107, doi:10.1029/2006GL027081.
- Weber, J.C., 2005, Neotectonics in the Trinidad and Tobago, West Indies segment of the Caribbean-South American plate boundary: *Occasional Papers of the Geological Institute of Hungary*, v. 204, p. 21-29.
- Weber, J.C., Dixon, T.H., DeMets, C., Ambeh, W., Jansma, P., Mattioli, G., Saleh, J., Sella, G., Bilham, R., and Perez, O., 2001, A GPS estimate of relative motion between the Caribbean and South American plates, and geologic implications for Trinidad and Venezuela: *Geology*, v. 29, p. 75-78.
- Zumberge, J., Heflin, M., Jefferson, D., Watkins, M., and Webb, F., 1997, Precise point positioning for efficient and robust analysis of GPS data from large networks: *Journal of Geophysical Research*, v. 102, p. 5005-5017.

Additional References

- DeMets, C., Gordon, R., Argus, D., and Stein, S., 1994, Effect of revisions to the geomagnetic reversal time scale on current plate motion: *Geophysical Research Letters*, v. 21, p. 2191-2194.
- Deng, J., and Sykes, L.R., 1995, Determination of an Euler pole for contemporary relative motion of the Caribbean and North American plates using slip vectors of interpolate earthquakes: *Tectonics*, v. 14, p. 39-53.
- Dixon, T.H., Farina, F., DeMets, C., Jansma, P., Mann, P., and Calais, E., 1998, Relative motion between the Caribbean and North American plates and associated boundary zone deformation based on a decade of GPS observations: *Journal of Geophysical Research*, v. 103, p. 15157-15182.
- Mann, P., Calais, E., Ruegg, J-C., Jansma, P., and Mattioli, G., 2002, Oblique collision in the northeastern Caribbean from GPS measurements and geological observations: *Tectonics*, v. 21, p. 1057.
- Rodriguez, A.B., 2008, Global Positioning System (GPS) determination of motion and neotectonics in Trinidad and Tobago: Pennsylvania State University 16th Annual McNair Scholars Summer Research Conference.
- Savage, J.C., and Burford, R.O., 1970, Accumulation of tectonic strain in California: *Bulletin of the Seismological Society of America*, v. 60, p. 1877-1896.
- Stein, S., DeMets, C., Gordon, R., Brodholt, J., Engeln, J., Wiens, D., Argus, D., Lundgren, P., Stein, C., and Woods, D., 1993, A test of alternate Caribbean plate relative motion models: *Journal of Geophysical Research*, v. 93, p. 3041-3050.
- Weber, J.C., Rodriguez, A.B., and Vandermeer, A., 2007, GPS and GIS Support for Geologic and Neotectonics Research in Trinidad and Tobago, West Indies: West Michigan Regional Undergraduate Science Research Conference.
- Weber, J.C., Saleh, J., Balkaransingh, S., Ambeh, W., Dixon, T. and Webb, F., 1999, 1901-1995 Geodetic displacements in Trinidad: new constraints on local earthquake hazards and Caribbean-South American neotectonics: American Geophysical Union Fall Meeting.

Considering Language Convergence in Ontario: An Examination of Variation in Hearst French



Ryan Rosso
McNair Scholar



Janel Pettes Guikema, Ph.D.
Faculty Mentor



Dan Golembeski, Ph.D.
Faculty Mentor

Abstract

French speakers are rare in Ontario, Canada; only 2.6 percent of the population speaks French at home. However, several isolated French-speaking areas exist. While linguistic research in the province increases, little focus has been given to northern Ontario. This study will examine variation in the French of Hearst, Ontario, through the lens of previous Ontarian French studies in order to apply new evidence to some previous sociolinguistic theories of language convergence. Analysis of transcripts from a corpus of interviews with 34 local Francophones is expected to further the understanding of the relationship between French and English in Ontario.

This study attempts to incorporate new data of Ontario French into the previous literature in order to increase our understanding of language contact in Ontario as well as in other areas of the world. I will begin this paper with an introduction to the necessary definitions and (§2) a discussion of the issues scholars have encountered in the study of language contact and its effects. Following will be (§3) an introduction to the community of Hearst, Ontario, from which the study draws its data, and (§4) a description of the specific instances of variation found in the French of Ontario and the methods used to analyze them. Then (§5) I will consider the results and discuss the possible sociolinguistic factors that may account for the variation in question. I will conclude this paper with (§6) a recapitulation of the study and suggestions for future research.

1. Definitions

Contact Linguistics, in its present form, is a complex field in which experts from differing academic backgrounds each have their own frameworks, viewpoints, and, in turn, terminologies. The terms used to refer to different contact-induced phenomena are particularly troublesome, as different scholars employ the same term to mean different things. Take, for instance, the use of the term *interference*: While some scholars use this term to refer to any effect one language has on another, others use it to mean only the influences a speaker's first language (L1) might have on his or her second language (L2). *Transfer* has also been used in the second sense by applied linguists in second language acquisition to describe instances in which learners of a second language impose characteristics from their L1 on their target language (TL) or L2. Winford (2005) also mentions the use of terms like *interference* via *shift*, *borrowing*, and *substratum influence* as confusing in a similar sense. Although scholars like van Coetsem (1988, 2000) and Winford (2005, 2007)

have attempted to unite the diverse field under one set of terms, the literature still presents a wide variety of classifications for different phenomena. Therefore, it is necessary as a prerequisite to follow the precedent and to make some note of the definitions that will be used in this paper.

The first main concept at the heart of this paper is contact-induced language change. Certainly, there is contention as to what kinds of changes can be considered contact-induced, but my definition is broader than most and takes into consideration some of these disputed results: *Contact-induced change is the phenomenon by which the interaction of speakers of distinct language patterns causes a qualitative or quantitative deviation in a language from its structural or lexical norm.* For the sake of this paper, this definition accepts the idea that language variation can be considered an indicator of ongoing or incomplete language change and that qualitative changes in frequency of linguistic variables qualify as a valid change in the language's characteristics.

The distinction between qualitative and quantitative deviation comes from the classifications by Mougeon and Beniak (1991) and Rehner and Mougeon (1997) of overt and covert interference.¹ As a rule, overt interference in a language presents itself as a qualitative (usually syntactic or semantic) deviation from that language's norm, while covert interference appears as a quantitative deviation. This means that covert interference can be seen statistically in variation, and need not incorporate a new innovation into the language; all that is required is a lower frequency of an expression or form in the recipient language (RL) that has no similar counterpart in the source language (SL) (which is usually accompanied by the subsequent rise of an equivalent expression that does have this counterpart). Finally, unlike Beniak, Mougeon, and Valois (1984), I take convergence to mean any process by which two languages in contact become more similar to each other, and not necessarily a process which differs from the classic definitions of interference or borrowing.

This definition therefore encompasses all contact-induced changes, since any lexical or structural transmission from a SL to a RL would make the two more similar.

2. Contact-Induced Change: Its Place in Ontario and Problems Assessing It

The contact between French and English in the Canadian province of Quebec is well-known to the scholars of many different fields. It should also not be a surprise that some Francophones have moved into the neighboring province of Ontario, where, as Statistics Canada (2006) reports, 2.6 percent of the inhabitants claim to speak French at home. Ontarian French (OF) differs from Quebec French (QF) due to its much more intensive contact with English. French speakers have always been a minority in the English-speaking majority province, but this population has been on the decline in the past decades.

The language contact situation in Ontario is interesting, in part, due to French's minority status. French was historically the dominant language of social prestige, government activities, and trade in the colonies of France and enjoyed a long period of time as the lingua franca of Europe and other areas of the world. This language, although it has lost some influence in the last century, still remains one of the world's most influential languages today, and it is difficult to find instances of language contact in recent history where French has not been the socially or politically dominant language. The situation in Ontario therefore provides the perfect opportunity to view French from the perspective of a minority language in contact with English and to assess the influences this contact has on the language itself. As will be seen in the rest of this section, this endeavor is far from simple.

2.1 Language Change

Certainly, the largest obstacle in the study of language change is time. The only way to absolutely prove an instance

of language change is arguably to perform a diachronic study after the process of change has taken place, since suspected changes are often only temporary trends. Most linguists do not have the necessary time or resources to perform this kind of research and must work with what they have. This means that many studies remain synchronic (considering a language situation at one point in time), and must depend on data that point to, but do not prove without doubt, certain changes that are taking place in a language. In this respect, linguists have been creatively resourceful in finding methods that produce convincing results.

One important indicator of ongoing language change lies in the existence of variation. The increase of statistical methods in sociolinguistics has been vital to the field, and the ability to find correlation between certain factors and linguistic variables has been put to good use in making the case for possible instances of ongoing change. If a certain variable presents itself in a higher frequency than would be considered normal in one form of the language or that form's genetic predecessor², it must be postulated that something has provoked this difference between the two language forms. Support of this hypothesis can usually be found through the aforementioned statistical analysis and any existing correlations between factors and variables. Mougeon and Beniak (1991), as well as others, have used this variationist approach extensively in the study of OF, including their analysis of the simplification and the subsequent leveling of 3rd-person singular and plural (3 sg./pl.) verb forms (pp. 91-109). Although this distinction between forms was found in children, they believe this example of leveling does not just originate in the younger speakers "for two reasons: (1) the speakers who level the 3sg./pl. distinctions have markedly dissimilar language acquisition histories (L1 vs. L2), and (2) both infant first-language learners and older second-language learners of French have been observed to level 3sg./pl. verb distinctions" (p. 109). This phenomenon, while not induced by the contact situa-

¹ Interference itself has been used to mean several different things in the literature, but I use it here in the widest sense to mean any intersystemic transmission of structure or lexicon between languages.

² For instance, a feature in OF that is not found in QF, as OF is generally considered a transplanted form of QF.

tion in Ontario, is certainly affected by it, since French language restriction was found to be correlated with this leveling. As the French-speaking population of the province decreases, restriction could be expected to increase and therefore the leveling of 3sg./pl. verb distinctions may also increase. Despite the time and resources many linguists lack in order to perform an ideal study of linguistic change, synchronic methods appear capable of producing clear results on which scholars can base their arguments.

2.2 *Contact-Induced Change*

Just as linguists have struggled with proving language change, it is equally (if not more) difficult to be sure that a given change is actually contact-induced. Scholars working in contact linguistics are finding difficulty in forming an efficient method to determine the cause of a given language innovation because many times, one method that works in one language situation may not be applicable for another. For example, Mougeon, Nadasdi, and Rehner (2005) have presented a methodological approach which lends itself well to the situation in Ontario, but which may or may not be as useful in other situations depending on a language's history, social position, or genetic heritage. Their method to determine whether a new feature in a language is contact-induced is constituted of four steps: (1) Determine if the new language feature in the RL has an equivalent in the SL, (2) Consider whether or not said feature may be a result of internally-motivated processes, (3) Look at other varieties of the RL to see if the feature exists elsewhere, and (4) Examine the distribution of the feature in the speech community in question and see if there is correlation between some contact-related factors (i.e. degree of contact, level of bilingualism) and the new feature.³ It should be noted that while each step is necessary, no one step is sufficient to demonstrate external cause of an innovation. Furthermore, the results of each step will likely never fully support or reject

one's hypothesis—in the end, the final verdict will always involve some judgment on the part of the researcher after considering all of the results.

Probably the most difficult part of any method used to determine the externally motivated nature of language change is seen in Mougeon et al.'s (2005) second step. Rejecting the possibility that an innovation could be internally motivated must be done carefully:

Even if the innovation is found primarily or exclusively in the speech of speakers who exhibit the highest level of contact, as restricted speakers of [the RL], these speakers are also as we have pointed out likely to exhibit the strongest tendency to resort to processes such as overgeneralization or regularization. (p. 103)

For this reason, other scholars have emphasized the importance of recognizing and examining the possibility of internal factors. This is evident in Thomason's (2001) own definition of contact-induced change: "Any linguistic change that would have been less likely to occur outside a particular contact situation is due at least in part to language contact" (p. 62). While this definition is broad, it accounts for the possibility of internal factors, changes that may only be an indirect result of language contact (i.e., a structural change that occurs following the borrowing of a lexical item or a change involved in the process of language attrition and death), and the extreme likelihood that changes are due to a combination of internal and external factors.

Even though I have only briefly touched on a few of the many issues and problems that arise in the study of contact-induced change, it should be apparent that the relationship between language contact and language change is complicated (to say the least). It is not likely that any groundbreaking method or framework will arise in the foreseeable

future that can easily sort out the many social, cognitive, and linguistic factors involved in change, so for now contact linguists must rely on methods that are readily available. Before using these methods, we turn to the background of Ontario and the community of Hearst.

3. Ontario, Hearst, and the Hearst French Corpus

3.1 *History*⁴

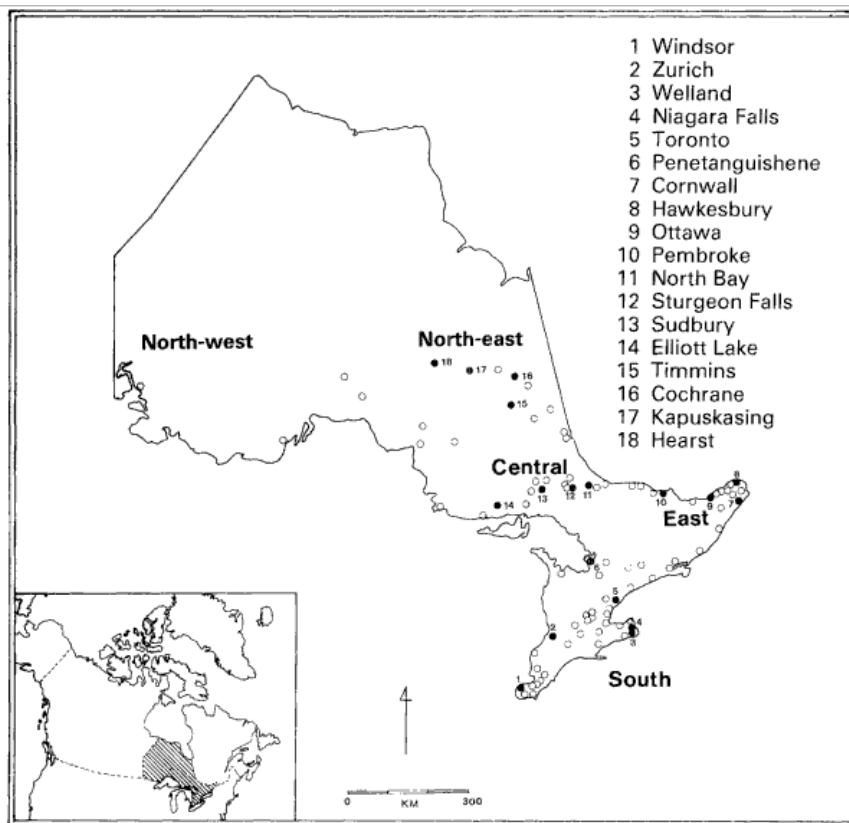
What is now the Canadian province of Ontario has been home to French-speakers since the late seventeenth century, when voyagers from the first French settlements came to the Great Lakes region via the St. Lawrence River. Some of the first settlements established in the area were located in the Upper Great Lakes region, including Sault Ste Marie in 1669, located at what is now the border of Ontario and the Upper Peninsula of Michigan, and St. Ignace and Michilimackinac, found on opposing shorelines near the juncture of Lake Michigan and Lake Huron, in 1671 and 1677 respectively. Fort Pontchartrain was founded in the Detroit area in 1701, but settlements were sparse during this time between the area surrounding the Great Lakes, and the first French settlements in Montreal and Quebec were due to the French interest in developing the fur trade and bringing Catholicism to the local Native American tribes.

After the British gained control of New France in 1763, many inhabitants of French colonies remained, but the American Revolution in 1776 forced many British loyalists to flee north, especially to Upper Canada (what is now Ontario—Quebec was known as Lower Canada). Although Francophones from older settlements moved farther east into Ontario after boundary changes due to the War of 1812, Anglophones continued to arrive there through the 1840s, bringing with them the English language and Protestantism. These linguistic and religious changes are what began to differentiate Ontario from Quebec, and

³ This methodology is intended by the authors to be used specifically for new features in a minority language, but I believe it is a promising method to use regardless of the social status of the language in question.

⁴ The information of this section is taken mainly from Mougeon and Beniak (1991) and Golembeski (1999). For more history of the province, see also Arnopolous (1982), Choquette (1980), Vallières (1980), Arkinstall and Pearce (1980), or Bernard (1988a, 1988b, 1991).

when Canada became an independent nation in 1867, English became its official language, while French remained an unofficial language of Quebec. However, several waves of immigration continued to bring Francophones to Ontario from Quebec in the 1830s, in the 1880s, after World War II, and in the 1960s. What has resulted are four main areas of francophone communities in South (Windsor, Zurich, Welland, Niagara Falls, Toronto, Penetanguishene), East (Cornwall, Hawkesbury, Ottawa, Pembroke), Central (North Bay, Sturgeon Falls, Sudbury, Elliott Lake), and Northeast (Timmins, Cochrane, Kapuskasing, Hearst) Ontario, as seen in Map 1.



Map 1: Regions and localities with francophone concentration in Ontario.

From *The Linguistic Consequences of Language Contact and Restriction: The Case of French in Ontario, Canada*, by R. Mougeon & É. Beniak, 1991, p. 19.

3.1.1 Hearst

Of the northeastern communities mentioned earlier, Hearst is farthest north, about 220 miles from Sault Ste Marie. The town was established in 1910 as Grant, but gained its current name a year later. Like their northeastern neighbors, settlers arrived following the creation of the National Transcontinental Railroad which eventually ran from Moncton, New Brunswick, through Quebec and Ontario, to Winnipeg, Manitoba. While many of the original inhabitants were English speakers, international immigrants arrived over the next 20 years from places like Finland, the Ukraine, Slovakia, Germany, Sweden, Romania, Italy, and Poland, as well as French and English Canada (Golembeski, 1999). At this time, English remained the dominant vehicular language, allowing the diverse inhabitants to communicate with each other in mixed settings.

However, Francophones from Quebec began arriving in increasing numbers as early as the 1920s, and by 1941, more than half (56.2 percent) of Hearst's population was of French ethnic origin (Golembeski, 1999). By 1971, this number had climbed to 77.9 percent after the Quiet Revolution⁵ and the greater institutional support for French in Quebec and other provinces that followed. Since then, this trend has continued as a result of three factors considered by Golembeski (1999): (1) continuing immigration from Quebec, (2) the emigration of non-Francophones, and (3) the traditionally larger family size of Francophones compared to other ethnic groups.

3.2 The Demographics of Hearst

As mentioned earlier, one interesting facet of OF is its minority language status and the gradual decrease of French speakers in Ontario. However, as French is struggling in the province as a whole, Hearst stands out as a strong example of French language maintenance in the last 30 years. As seen in Table 1, francophone numbers in Ontario have been decreasing

until recently, and this drop is even more prevalent in the numbers for French spoken at home.⁶ The differences between these two categories in Ontario appear to be just one sign that French speakers in Ontario are shifting to other languages (presumably English). This trend does not appear in the numbers for Hearst (with the exception of 2001), clear support for the assertion that French is being maintained there.

⁵The Quiet Revolution was a period of vast political and social reform in Quebec championed by the Liberal provincial government of Jean Lesage.

⁶Some boundaries in Ontario were changed between 1996 and 2001, so these numbers should be compared with the appropriate discretion.

Year	French Mother Tongue		French Spoken at Home	
	Hearst	Ontario	Hearst	Ontario
1971	--	482,045 (6.3%)	--	352,465 (4.6%)
1981	--	475,605 (5.5%)	--	307,290 (3.6%)
1986	--	485,310 (5.4%)	--	340,545 (3.8%)
1991	--	464,040 (4.6%)	--	300,085 (3.0%)
1996	5,075 (83.9%)	441,675 (4.1%)	4,996 (82.6%)	287,190 (2.7%)
2001	5,080 (88.9%)	485,630 (4.3%)	4,269 (73.3%)	171,150 (1.5%)
2006	4,905 (89.0%)	488,815 (4.1%)	4,855 (88.1%)	289,035 (2.4%)

Table 1: French-Speaking Population of Hearst and Ontario: 1971-2006.⁷

Adapted from *French Language Maintenance in Ontario, Canada: A Sociolinguistic Portrait of the Community of Hearst*, by D. Golembeski, 1999, p. 108; Statistics Canada, 1996, 2001, 2006.

3.3 The Hearst Corpus

The data analyzed in this paper are from a corpus of spoken French from residents of Hearst, collected in informal interviews during a span of four months in 1995 by Daniel Golembeski for his doctoral dissertation.⁸ There are 34 participants in total, ranging in age from 11 to 81 years old and comprising 18 males and 16 females. Because a larger random sampling was outside of the scope of his study, Golembeski (1999) interviewed a relatively equal amount of participants between the sexes and age groups, splitting the latter into three groups: 11-25 years, 26-50 years, and 51 years and older. In the present study, age was not grouped in the same fashion. For a reason to be mentioned later, age was separated as seen in Table 2, which breaks down the informants by age and sex. Other information regarding social class or linguistic history was not available for this study. However, it is clear that French is the dominant language of each participant, and while some also speak English, French is still the

predominant language in the day-to-day life of Hearst residents.

While the primary purpose of the interviews was to collect a corpus of HF, the secondary objective was to gain firsthand information on the community, language, and history of the region. Therefore, the topic was likely to vary between and within each interview, and most were performed in an informal setting (usually the interviewee's home or workplace). Golembeski made other attempts as well to provoke spoken French as it would occur naturally. For instance, he did attempt to modify his speech to more closely resemble Canadian French, though he explains: "I was still perceived as speaking a relatively standard form of the language. Still, all informants appeared at ease during the interview, and misunderstandings were few" (Golembeski, 1999, p. 86).

4. Variation in Hearst French

There are two specific examples of variation in Hearst French (HF) that will be introduced in sections 4.1 and 4.2, both of which also exist in other forms of OF and are examined in Beniak et al. (1984) and Rehner and Mougeon (1997) respectively. These instances of variation can be seen as parallel in that they constitute a competition between forms generally considered standard in French and less popular forms which bear strong resemblance to English counterparts. Studying the rise of these less popular forms in HF will provide a more comprehensive look at their existence in OF, at the level of contact and its linguistic effects in HF, and at the position of French in Hearst and in Ontario as a whole.

4.1 The Prepositional Phrases *chez* + [personal pronoun] and *à la maison*

The first instance of variation examined here is the variable usage of two prepositional phrases that are used to convey motion to or location at one's house/home: *chez* + [personal pronoun]

⁷French Mother Tongue refers to the number of residents whose first language was French and who can still speak it, while French Spoken at Home is the number of residents who use French at home more often than any other language. These numbers do not include residents who claimed multiple languages for either category (i.e., French and English).

⁸The only resources available to me were the transcripts, and not the actual recordings of the interviews. However, the transcripts were written in eye-dialect, so some phonetic particularities are noticeable in the spelling conventions. For more information on the Hearst corpus and the eye-dialect used in the transcripts, see Golembeski (1999).

Sex	Age Groups			Totals
	Under 35 years	35-55 years	Over 55 years	
Male	7	7	4	18
Female	7	5	4	16
Totals	14	12	8	34

Table 2: Heart French Informants by Sex and Age.

and *à la maison*.⁹ While both exist in Canadian and European French, *chez* + [personal pronoun] is traditionally used much more often in referential forms of the language. As such, *à la maison* can be considered the typically less popular variant. The linguistic distribution of the former is also more expansive, encompassing the idea of anyone's home, while the latter is only grammatical when it is anaphoric with an intrasentential antecedent (usually the subject of the sentence) or with the speaker. This means that, due to the possessive ambiguity inherent with *à la maison*, the two can only be considered in variation when *chez* + [personal pronoun] qualifies under these rules, and examples where it does not may not be included in this variationist analysis. For instance, (1) shows possible sentences where the variants refer to an antecedent (the subject), (2) shows the variants anaphoric with the speaker, and (3b) is ungrammatical and not in variation with (3a) because it does not refer to either:

- (1) a. Il est chez lui.
'He is at home.'
b. Il est à la maison.
'He is at home.'
- (2) a. Il est venu chez moi.
'He came to my house.'
b. Il est venu à la maison.
'He came to my house.'

- (3) a. Je suis allé chez elle.
'I went to her house.'
b. Je suis allé à la maison.
*'I went to her house.'

Note the strong resemblance *à la maison* exhibits to the English equivalents 'at home' and 'at X's house.' This example of variation provides one focal point to assess the level of convergence toward English that is occurring in any form of French. Beniak et al. (1984) considered this variation in OF, specifically in the more eastern communities of North Bay, Pembroke, Cornwall and Hawkesbury. The communities were of varying degrees of contact—that is, their francophone populations ranged from a small percentage of the overall population to a much larger majority of the inhabitants.¹⁰ The authors used statistical methods to examine the frequency of *chez* + [personal pronoun] and *à la maison* across several factor groups in order to examine the effect each factor group had on a speaker's choice between the variants. The most important and intriguing results came from the factor group of locality of residence: The speakers who lived in communities with smaller proportions of Francophones (and where English was more likely to be used in day-to-day communication) were found more

likely to use the expression *à la maison* over *chez* + [personal pronoun]. As this proportion was increasingly larger with the other communities, their speakers were gradually less likely to do the same. In other words, this means:

The more French is in intensive contact with English at the local level, and therefore the more bilingual speakers there are, the greater the likelihood that *à la maison*, the variant resembling English usage, will be used in the local variety of French. (Beniak et al., 1984, p. 83)

Had it not been for a technicality in their analysis, the authors also expected that the frequency of the speakers' use of French would be similarly correlated. This would appear in a higher factor effect on use of *à la maison* for restricted speakers of French (those who speak it less frequently), and a lower factor effect for those who use French more frequently.¹¹

4.2 The Restrictive Expressions *rien que, seulement, and juste*

Similar to the previous instance of variation, the second focus of this paper is on the variable usage of the restrictive expressions *rien que, seulement, and juste*.¹² It was mentioned earlier that this

⁹It should be noted that the variable *à la maison* appears in the corpus itself in several morphophonetic forms: *à a maison* and *à maison*. This is through a process of l-deletion, well-documented in Canadian French, and a subsequent merging of the 'a' sounds that would be processed linearly as *à la maison* > *à a maison* > *à maison*. These differences are ignored in this paper as they fall out of its scope and do not differ semantically.

¹⁰To be more specific, the communities' percentages of francophone population were as follows: Pembroke, 8%; North Bay, 17%; Cornwall, 35%; Hawkesbury, 85%.

instance seems parallel to the previous one, and this is evident in both the traditional popularity of the phrases and the existence of a traditionally less popular variant which is very similar to an English equivalent. As Rehner and Mougeon (1997) point out, while *rien que* and *seulement* have long been attested to in the dictionaries of European French, the existence of *juste* used as a restrictive expression has appeared relatively recently, though it has been documented as on the rise in Montreal (and probably other areas of Quebec).

Another reason this case parallels the first one is that *juste*, like *à la maison*, is remarkably similar to one of its restrictive equivalents in English, 'just.' It is, however, important to understand that the syntactic rules in French and English regarding these two expressions (and all restrictive expressions for that matter) differ. Most notably, English allows the preverbal placement of restrictive expressions, while both standard and non-standard forms of French do not.¹³ The following hypothetical examples demonstrate this quite well:

- (4) a. J'aime juste le football.
'I like *just* soccer.'
b. *Je juste aime le football.
'I *just* like soccer.'
- (5) a. Il parle rien qu'en français.
'He speaks *only* in French.'
b. *Il rien que parle en français.
'He *only* speaks in French.'
- (6) a. Nous mangeons seulement des produits biologiques.
'We eat *only* organic products.'
b. *Nous seulement mangeons des produits biologiques.
'We *only* eat organic products.'

Among their many findings regarding these restrictive expressions in OF, Rehner and Mougeon (1997) indicate a correlation between locality of resi-

dence and location of choice similar to Beniak et al.'s (1984) regarding *à la maison*. Although the correlation was not as prevalent as in the older study, *juste* was more likely to be used by the speakers who resided in the communities with lower percentages of Francophones, while informants who lived in the communities with larger percentages of French-speaking residents were less likely to do the same. Interestingly, the authors did find a significant correlation between French language restriction and location of choice that further supports the notion that convergence is proceeding in OF. Other evidence to support this theory is that women were also found more likely to use *juste*. As women—especially working class women—are typically attributed the tendency to be on the forefront of linguistic change, Rehner and Mougeon (1997, p. 102) cite these results as further evidence that the process of change is underway.¹⁴

4.3 Methodology

Goldvarb X (Sankoff, Tagliamonte, & Smith, 2005) was used to perform a step-by-step regression analysis on the data for this study. This computer application uses statistic processes to determine the correlation between certain factors affecting language use (i.e. sex, age, social class, etc.) and the variable choices made by the speakers involved. Given tokens coded for each of these factors, the program assigns each factor a number (when the factor group is found to be significant) from 0 to 1, which indicates the extent to which the factor favors the choice of a variant or not. Typically, factor effect numbers above .500 are considered to be an indication of a favorable effect on the variant in question, while those under .500 are said to have the opposite effect.¹⁵ In more simple terms,

this means that the program determines which sections of the given population (the participants in the corpus) are more likely to use a given linguistic variable.

Goldvarb X can only perform step-by-step analyses on instances of binary variation (those with only two variables). Though there are three restrictive expressions being considered in this study, the main occupation of this paper is with the position of *juste* as compared to the other variants, so *rien que* and *seulement* have been combined into one dependent variable to perform the analysis of these expressions. Each token from both analyses was coded for the available information regarding the participants: age and sex. The factor group of sex includes the obvious choices of male and female, and age is divided as follows: under 35 years, 35 to 55 years, and over 55 years.

In addition, the restrictive expressions have also been coded for another factor. This follows the convention of Rehner and Mougeon (1997) and attempts to account for the wide syntactic distribution of the variants. In order to control for the many syntactic positions possible and gain insight into their possible effect on variable choice, five factors were chosen (seen here with examples drawn from the Hearst corpus):

i) verbal restriction 'left of verb':

(7a) Moi c'est ienque commencer à travailler

(7b) [...] jusse faut que t'es voies

ii) verbal restriction 'right of verb':

(8a) [...] faut jusse pas le prend'e pour acquis

(8b) je r'placais seulement pis là [...]

iii) adjectival restriction:

(9a) le collège northern va êt seulement que anglais [...]

(9b) c'est jusse restreint dans certains métiers

iv) nominal restriction:

¹¹ Factor effects and regression analysis will be explained in more detail in section 4.3.

¹² Again, the variants exist in many morphophonetic forms in the corpus. Among them, *rien que* often appears as *ien que* (an instance of r-deletion), and *juste* varies considerably with the forms *jusse*, *ju*, *juche*, and *djusse*. *Seulement* also sometimes appears as *seulement que*.

¹³ Preverbal placements of restrictive expressions have been documented in OF by Rehner and Mougeon (1997), but they were few. This kind of deviation from the standard syntactic rules of French serves as a perfect example of overt interference since it is a new innovation and a qualitative change. It does not, though, fall in the scope of this paper since the current occupation is with the quantitative deviations associated with covert interference.

¹⁴ The authors cite Labov (1990) as evidence of this connection between women and linguistic change.

¹⁵ Some scholars favor an interpretation of the factor effect number that is relative to the other factors of the given factor group and do not see .500 as the end-all number. My interpretation tends to fall somewhere between the two.

(10a) c'est jusse ceux qui parlent en anglais, ceux qui parlent pas français

(10b) c'est ienque des boutiques là
v) the restriction of a circumstantial complement:

(11a) j'écoute ça ienque pour rire là, tsé, c'est drôle

(11b) ça va jusse en anglais

(11c) les francophones on vivait seulement su/deux petites rues

4.4 Hypotheses

In light of the results of the previous studies concerning these two cases of variation mentioned in OF, the position of French in Hearst, and well-known universal sociolinguistic trends, my hypotheses are as follows:

- Women will be more likely to use the less popular forms *à la maison* and *juste* due to their tendency to be involved relatively early in the process of change.
- In a similar fashion, while older informants will be more likely to use the older, more standard expressions of *chez* + [personal pronoun], *rien que*, and *seulement*, younger participants will favor the newer, less orthodox variants *à la maison* and *juste*.¹⁶
- Most relevant to the topic of this paper, the overall frequency of forms which are similar to English equivalents will be lower in Hearst than in most of the previously studied communities due to the lesser degree of contact associated with French dominance in Hearst.

Though these predictions are the main areas of focus, it is understood that the results will probably also provide other unexpected details that are of interest to the topic of this paper.

5. Results

Table 3 shows the results of the step-by-step regression analysis of the variation between *chez* + [personal pronoun] and *à la maison* as performed by Goldvarb X. Included are the N of *à la maison* (total number of tokens found in the corpus in which the informants used

the mentioned variant), the total number of tokens found (including both variants), and the percentage of tokens in which *à la maison* was chosen. Each of these numbers is divided among the factors of each factor group and the far right column shows the factor effect number for each factor. The factors from each group are thus listed in order of highest to lowest factor effect. As mentioned earlier, these numbers represent the effect that any factor has on the choice between the two variants. Therefore, a higher factor effect is an indication of higher probability that *à la maison* will be chosen, and a lower number indicates an unfavorable effect on that variant's probability. In total, *à la maison* was the chosen locution 40 percent of the time, while females were more likely to use this variant over males. The youngest participants were similarly more likely to use it, followed by the age group between 35 and 55 years and, as the factor effect for the oldest participants shows, participants over the age of 55 years were extremely unlikely to use *à la maison*.

Factor Groups	N of <i>à la maison</i>	Total	% of <i>à la maison</i>	Factor Effect
Sex				
Female	18	36	50%	.667
Male	9	32	28%	.314
Age				
Under 35 Years	16	32	47%	.649
35-55 Years	10	24	35%	.591
Over 55 Years	1	12	18%	.085
Total	27	68	40%	Input = .361

Table 3: Frequency and Effect of Factors on Use of *à la maison*.

¹⁶ It does remain possible, however, that French-language schooling has had an effect on the speech of the younger participants, thereby reducing the probability that these forms are attested in the language of the young.

Factor Groups	N of <i>juste</i>	Total	% of <i>juste</i>	Factor Effect
Sex				
Female	132	181	73%	.575
Male	75	122	62%	.390
Age				
Under 35 Years	98	116	85%	.715
35-55 Years	94	131	72%	.505
Over 55 Years	15	56	27%	.124
Syntactic Context				
Right of Verb	14	17	82%	.745
Adjective	7	8	88%	.626
Complement	67	91	74%	.563
Noun	112	177	63%	.442
Left of Verb	7	10	70%	.398
Total	207	303	68%	Input = .709

Table 4: Frequency and Effect of Factors on Use of *juste*.

Organized in the same fashion as Table 3, Table 4 shows the results of the analysis of *juste* versus *seulement* and *rien que*. Note that this table also includes the factor group of syntactic context, which was explained in section 4.3. Similar to the previous analysis, *juste* was favored more by female participants. Regarding age, however, the middle age group was found most likely to use *juste*, while the youngest participants slightly favor it and while the oldest are very unlikely to choose this variable. Syntactic context was found to be a significant predictor of variable choice. *Juste* was most likely to be used to the right of the verb and least likely to be used to the left of the verb. By far, tokens were found mostly with a circumstantial complement or a noun phrase and both had only slightly favorable and unfavorable effects respectively. The overall frequency of *juste*, almost 70 percent, is much higher than that of *à la maison*.

5.1 Discussion

5.1.1 Age.

While my first hypothesis regarding women was verified by the results, my hypothesis regarding age was only partially correct. The choice of *à la maison* was negatively correlated with age as suspected, but the results concerning *juste* did not follow this pattern. Notably, informants between the ages of 35 and 55 years were most likely to choose *juste*, while the younger participants were only very slightly correlated with its usage. It is for this reason that the age groups were selected according to these ages, so as to account for the possible standardizing effect of French language schooling in Hearst. It is imagined that schools in Hearst may put a greater emphasis on more standard varieties of French, whether it be the reading of texts from Quebec or France, following rules of grammar and language use that are

considered standard in writing, or the correction of a student's spoken French by his or her teacher in an effort to keep the language 'pure.'

No matter the route by which this schooling affects the use of French in Hearst, one must then question why the frequency of *à la maison* does not show a similar drop in younger speakers. One answer may be that teachers could be less likely to correct a student who uses *à la maison*, as this form does exist in standard varieties of the language, and very likely to correct a student who uses *juste*, since it is not typically used as a restrictive expression in these varieties. Furthermore, other school media in standard varieties of French may contain support that *à la maison* is an acceptable and standard component of French.

5.1.2 Convergence in OF and HF.

The results seem to tell separate stories regarding the two instances of variation examined here and the position of the traditionally less popular variants in HF. The strong overall frequencies of *à la maison* and *juste* suggest that their presence in HF is not trivial but, to an extent, ingrained in the speech of Hearst residents. Considering the history of the two expressions, the results do, however, seem to show that *à la maison* is not as strongly incorporated into HF. The existence of this expression in other standard varieties of French—namely, European French and Quebec French—may be a reason for the slower change, since it has already existed in the language for some time. Furthermore, its frequency in HF is much lower than that of *juste*, perhaps meaning that *à la maison* is a much more qualitatively stable expression and therefore more resistant to changes in its frequency. Regarding the results of Beniak et al. (1984), however, it must be acknowledged that despite the low level of French language restriction in Hearst, *à la maison* appears in HF as frequently as in Pembroke (a community of only 8 percent Francophones, compared to Hearst's 89 percent) and much more frequently than in Cornwall or Hawkesbury, which is very similar to Hearst demographically. These findings seem counter-intuitive when one considers the authors'

results connecting locality of residence with the use of the expression.¹⁷ The correlation between the factor of being female and saying *à la maison* may also suggest that this change is still in its early stages, since women are often found to at the forefront of linguistic change.

The overall frequency of *juste* in HF further disproves my hypothesis that the unrestricted nature of HF speakers would resist the rise of non-standard forms, since this number is almost equal to the frequency of that expression in Rehner and Mougeon (1997). As mentioned earlier, this study found a similar correlation between the locality of residence and the use of *juste*, whose frequency does not follow this pattern in HF. Unlike *à la maison*, though, *juste* is now the dominant variable expression of restriction. This dominance appears to be induced by language contact with English through covert interference due to the fact that it does not exist with the restrictive function in European French (yet persists in OF, where the situation of French is very different). Similarly, the existence of *juste* in the position of left of the verb stands as an instance of a qualitative change and therefore of overt interference. Language contact must certainly be at least one factor in this variant's linguistic dominance in HF.

5.1.3 Factors in language convergence.

It seems that the correlation between locality and covert interference found by Beniak et al. (1984) and Rehner & Mougeon (1997) does not apply as well to Hearst as it does to the communities they studied. I therefore propose that other factors should be taken into consideration when evaluating contact-induced interference in Ontario (and potentially other places). The location of the community, its level of isolation and, more importantly, its proximity to other French-speaking communities should be considered. The support for the original theory of convergence in Ontario was that the percentage of the francophone population for each community could be related to the amount of French that

was used in the every day communication of the community. This would mean that in a community like Hawkesbury, which has a large francophone population, one would hear much more French on the street, in shops, during business meetings, et cetera, and conversely, less French would be heard in a community with fewer French speakers, such as in Pembroke. This does not, however, take into account the very close proximity of these communities with Quebec and the effect this has on everyday communication. One must take into account the mere inevitability that some inhabitants must travel outside their home community, and that this could lead speakers to Quebec, where they will need to speak French. In addition, should these Francophones feel the urge to perform some task (such as buy a car) in French, this would be possible for the inhabitants of East Ontario. Hearst, however, with the exception of a few small French communities, is surrounded by a vast ocean of Anglophones and this makes certain kinds of intercommunicative encounters impossible in French. Because Hearst is a largely French-speaking community in relative isolation from other Francophone strongholds, it is apparent that the more frequent use of some English expressions due to convergence cannot be explained only through restriction as previous studies have argued for other francophone areas.

6. Conclusion

This paper has attempted to introduce the reader to the main concepts in the field of contact linguistics as well as to the language situation in Hearst and all of Ontario. This situation is a unique one, and though for the moment language maintenance of French is continuing in Hearst, one cannot be sure how long this will last. Social and political factors will play a key role in this language situation in the upcoming decades, and by that time, perhaps language convergence will have progressed even further. Though one can not be sure of the speed or

continued progress of the changes considered in this study, it seems that their existence is not random. The surprisingly large frequencies in which the expressions *à la maison* and *juste* are spoken suggest that they are here to stay for the time being.

Furthermore, considering the level of language contact in Northeast Ontario and the previously discovered correlation between these expressions of English resemblance and levels of bilingualism and language restriction, it is evident that the rise of popularity of these forms is at least partially due to language contact with English. However, this popularity was not expected to such an extent after considering the geographic correlation with covert interference that was found in Beniak et al. (1984) and Rehner & Mougeon (1997).

It is first suggested that research on French in Hearst and Ontario be continued and expanded. The data from the aforementioned studies date back to the 1970s, and as time progresses, the Hearst corpus will be similarly unrepresentative of the current times. This is not to say that these corpora are obsolete, only that a new corpus of OF would shed vital new light on the linguistic situation in Ontario by providing a second study on which to base diachronic studies of language change there. With data from several points in time, one could assess the progress of language convergence in the province, specifically as regards the expressions examined in this paper.

Secondly, further research concerning the geographic factors of linguistic change in speech communities may help researchers understand the variety of phenomena happening in Ontario and other places. Specifically, isolation and distance from other main locations of the language under question should be examined to see to what extent these factors actually influence the introduction and spread of contact-induced changes. This kind of study would definitely provide a clearer understanding of OF, as the French-speaking communities of Ontario have differing backgrounds and rela-

¹⁷ It cannot go unnoted that the Hearst corpus and the corpus used by Beniak et al. (1984) are composed of significantly different populations: While their corpus is the spoken language of adolescents, the Hearst corpus has a much greater range of age. Comparing the results of the two studies is, then, to be taken cautiously. However, it does not seem to be too much of a stretch in this case, as Table 3 shows the younger participants to use *à la maison* even more often than the other age groups.

tionships with Quebec and the English language.

Lastly (and more broadly), it would be helpful to further refine the frameworks, methodologies, and terminologies used in studies of language contact, variation, and change. Of this large subsection of linguistic research, the assertion of contact-induced changes is in need of support in the form of frameworks such as the one presented in Mougeon et al. (2005). If contact linguistics is to have any significant breakthroughs, scholars must continue to focus on the creation of overarching theories as well as the analysis of empirical data.

References

- Arkinstall, M., & Pearce, E. (1980). *Pioneer partners at St-Paul's*. St-Thomas: Impressions.
- Arnopoulos, S. M. (1982). *Hors du Québec point de salut?* Montreal: Éditions Libre Expression.
- Beniak, É., Mougeon, R., & Valois, D. (1984). Sociolinguistic evidence of a possible case of syntactic convergence in Ontarian French. *Journal of the Atlantic Provinces Linguistic Association*, 6-7(Spring), 73-88.
- Bernard, R. (1988a). Hearst: Migrations et développement. *Hearst: Culture et société*, 7-18. Hearst, Ontario: Editions du Nordir.
- Bernard, R. (1988b). *De Québécois à Ontario: La communauté franco-ontarienne*. Hearst, Ontario: Essai-Le Nordir.
- Bernard, R. (1991). *Le travail et l'espoir: Migrations, développement économique et mobilité sociale Québec/Ontario 1900-1985*. Hearst, Ontario: Étude/Nordir.
- Choquette, R. (1980). *L'Ontario français*. Montreal: Études Vivantes.
- Golembeski, D. (1999). *French language maintenance in Ontario, Canada: A sociolinguistic portrait of the community of Hearst*. Ph.D. dissertation, Department of French and Italian, Indiana University, Bloomington, IN.
- Labov, W. (1990). The intersection of sex and social class in the course of linguistic change. *Language Variation and Change*, 2(2), 205-254.
- Mougeon, R., & Beniak, É. (1991). *The linguistic consequences of language contact and restriction: The case of French in Ontario, Canada*. Oxford: Oxford University Press.
- Mougeon, R., & Beniak, É. (1995). The French language in Ontario. *Revue québécoise de linguistique théorique et appliquée*, 12(1), 139-164.
- Mougeon, R., Nadasdi, T., & Rehner, K. (2005). Contact-induced linguistic innovations on the continuum of language use: The case of French in Ontario. *Bilingualism: Language and Cognition*, 8(2), 99-115.
- O'Malley-Madec, M. (2007). How one word borrows another: The process of language-contact in two Irish-speaking communities. *The International Journal of Bilingual Education and Bilingualism*, 10(4), 494-509.
- Rehner, K., & Mougeon, R. (1997). Use of restrictive expressions *juste*, *seulement*, and *rien que* in Ontario French. *Journal of the CAAL*, 19(1-2), 89-109.
- Sankoff, D., Tagliamonte, S., & Smith, E. (2005). *Goldvarb X: A variable rule application for Macintosh and Windows*. Department of Linguistics, University of Toronto.
- Statistics Canada (1996, 2001, 2006). *Census of population*. Ottawa, Ontario: Supply and Services Canada. Profiles of Census Divisions and Subdivisions in Ontario.
- Thomas, A. (1989). *Le franco-ontarien: Portrait linguistique*. In R. Mougeon & É. Beniak (Eds.), *Le Français Canadien parlé hors Québec: Un aperçu sociolinguistique* (pp. 19-35). Quebec: Presses de l'université Laval.
- Thomason, S. G. (2001). *Language contact: An introduction*. Washington, DC: Georgetown University Press.
- Thomason, S. G. (2008). Social and linguistic factors as predictors of contact-induced change. *Journal of Language Contact*, *THEMA* 2, 42-56.
- Vallièrès, G. (1980). *L'Ontario français par les documents*. Montreal: Études Vivantes.
- Wardhaugh, R. (2006). *An introduction to sociolinguistics* (5th ed.). Malden, MA: Blackwell.

- Winford, D. (2005). Contact-induced changes: Classification and processes. *Diachronica*, 22(2), 373-427.
- Winford, D. (2007). Some issues in the study of language contact. *Journal of Language Contact*, THEMA 1, 22-39.
- Yang, C. D. (2000). Internal and external forces in language change. *Language Variation and Change*, 12(3), 231-250.

Cyber-Sexual Harassment: The Development of the Cyber-Sexual Experiences Questionnaire



Samantha Schenk
McNair Scholar



Donna Henderson-King, Ph.D.
Faculty Mentor



Ellen Shupe, Ph.D.
Faculty Mentor

Abstract

Research on sexual harassment has shown that although half of all women experience unwanted sex-related behaviors in work and school, only 4% to 20% label those experiences as sexual harassment (Magley, Hulin, Fitzgerald, & DeNardo, 1999; Stockdale, Vaux, & Cashin, 1995). Moreover, while research and literature on face-to-face sexual harassment continues to grow, little research has examined sexual harassment in an Internet context. Because of this, much of what is known about Internet-based sexual harassment comes from research conducted on face-to-face sexual harassment. The current study establishes a foundation of understanding and develops a measure of experiences of sexual harassment on the Internet (i.e., cyber-sexual harassment). Cyber-sexual harassers use the Internet as a way to connect with acquaintances from off-line social interactions (i.e., work and school), or complete strangers, to perpetrate their victims through gender harassment, the exhibition of unwanted sexual attention, and/or the use of sexual coercion. In a British survey, 41% of female regular Internet users reported being sent unsolicited pornographic materials, harassed, or stalked on the Internet (Griffiths, 2000). Such a large number of women encountering offensive sex-related experiences on the Internet prompts further understanding of these experiences and others like them. The purpose of the current study is to add to the developing body of literature on cyber-sexual harassment by creating a measure of cyber-sexual harassment. Twenty-four female undergraduate students participated in focus groups of two to six people. Guided by predetermined questions, these groups discussed their

positive and negative experiences on the Internet. Information gathered was used to create the Cyber-Sexual Experiences Questionnaire, modeled after the Sexual Experiences Questionnaire (Fitzgerald, Gelfand, & Drasgow, 1995). The 21-item measure consists of questions related to the participant's cyber-sexual harassment experiences and whether the participant labels her experiences as cyber-sexual harassment. Responses for the frequency of each item range between one (never) to five (most of the time).

Cyber-Sexual Harassment

While face-to-face sexual harassment research and literature continues to expand, little research has examined sexual harassment in an Internet context. Because of this, much of what is known about Internet-based sexual harassment comes from research conducted on face-to-face sexual harassment, as well as other related Internet behavior. The current study establishes a foundation of understanding and develops a measure of experiences of sexual harassment on the Internet (i.e., cyber-sexual harassment).

The Pew Internet and American Life Project found that e-mail was the most popular form of communication in the year 2004, when over 90% of people using the Internet reported e-mail use (2005). With so many people using the Internet on a regular basis, acts of deviance are likely to occur at increasing rates. One such deviant act is cyber-sexual harassment. In a British survey, 41% of females who regularly use the Internet reported being sent unsolicited pornographic materials, harassed, or stalked on the Internet (Griffiths, 2000). In another study, Whitty (2004) found that 17% of women reported being harassed through e-mail in the workplace, while 49% reported having received offensive e-mails. Although this research suggests widespread use of the Internet and experiences linked to what may potentially be identified as cyber-sexual harassment, little known research has empirically

explored the occurrence of cyber-sexual harassment. However, drawing from face-to-face sexual harassment literature, findings may provide a foundational link to cyber-sexual harassment.

Face-to-Face Sexual Harassment

Cases of sexual harassment have appeared in work (e.g., Petrocelli & Repa, 1998), school (e.g., McMaster, Connolly, Pepler, & Craig, 2002; Timmerman, 2003), and military settings (e.g., Fitzgerald, Drasgow, & Magley, 1999). Sexual harassment has also been shown to have direct effects on women's emotional health (e.g., loss of self-esteem, feelings of helplessness, isolation, and depression; van Roosmalen & McDaniel, 1998), as well as severe effects related to work and school (e.g., reduced performance and satisfaction, decreased motivation and morale, and lower productivity; Dansky & Kilpatrick, 1997).

Through 116 descriptive sexual harassment anecdotes from postsecondary students, Till (1980) identified 5 sexual harassment behaviors: sexist remarks or behavior; inappropriate and offensive, but sanction-free sexual advances; solicitation of sexual activity by promise of rewards; coercion of sexual activity by threat of punishment; and sexual crimes and misdemeanors. The five behaviors of sexual harassment were later reclassified by Fitzgerald et al. (1995) into three categories still used in sexual harassment research today: gender harassment, unwanted sexual attention, and sexual coercion. Gender harassment includes verbal and nonverbal behaviors in the expression of attitudes related to women that are insulting, hostile, and degrading. Unwanted sexual attention also includes verbal and nonverbal behavior, but is offensive, unwanted, and unreciprocated. Lastly, sexual coercion is the extortion of sexual cooperation in exchange for something the person pursued is trying to gain or avoid. Given the widespread occurrence of face-to-face sexual harassment and its effects on women, the same negative effects may appear online. Furthermore, through further exploration of cyber-sexual harassment, similar and different sexual harassment behaviors may be found in cyber-sexual harassment

in relation to face-to-face sexual harassment.

Cyber-Sexual Harassment

Through a review of sexual harassment literature, Barak (2005) acknowledged the parallel similarities between off-line and online sexual harassment in the existence of gender harassment, the exhibition of unwanted sexual attention, and sexual coercion in both contexts. Using the limited literature on online sexual harassment, Barak (2005) also organized and defined the most common form of sexual harassment, online gender harassment, into four specific categories: active verbal sexual harassment, passive verbal sexual harassment, active graphic gender harassment, and passive graphic gender harassment. Active verbal sexual harassment appears as offensive sexual messages directly toward the victim. Such messages might include gender-humiliating comments, sexual remarks, and dirty jokes (e.g., "Go back to your natural place, the kitchen"; "Nipples make this chat room more interesting"). Passive verbal sexual harassment does not target a specific person, but potential receivers. Nicknames and terms or phrases clearly attached to personal details often encompass this form of sexual harassment (e.g., Sweet Tits for a nickname; "Want to blow my pole?" as an offensive phrase). Active graphic gender harassment occurs when erotic and pornographic pictures or videos are intentionally sent through e-mail, peer-to-peer messenger programs (e.g., AOL Instant Messenger and Yahoo Messenger), or posted somewhere online. Similar to active graphic gender harassment, passive graphic gender harassment involves pictures and videos, but they are published on Web sites. Although the four forms of gender harassment have been identified from previous research, support has yet to emerge in the form of empirical research. Thus, further exploration into cyber-sexual harassment is needed.

Related to cyber-sexual harassment, Biber, Doverspike, Baznik, Cober, and Ritter (2002) conducted a study to examine the difference between online and face-to-face behaviors being rated as sexually harassing. Participants were

presented with a series of scenarios and asked to rate a certain behavior experienced either online or in-person as sexually harassing. Findings indicated that behaviors such as misogyny (e.g., "In chat room for his class, Professor M very often puts down women as a group in his comments, and argues that they are inferior to men."), the use of sexist nicknames (e.g., "In their discussions online, Professor N mostly addresses Jane as 'sweetheart,' and 'honey.'"), and comments about dress (e.g., "Professor V has sent Jane e-mails making sexually oriented comments about the way Jane dresses.") were rated more sexually harassing when the scenario took place online. Yet, requests for company (e.g., "Jane's professor, Professor T, often sends Jane flirtatious e-mails. Also, he sends many e-mails pressuring Jane for dates and sexual favors.") were rated less harassing on the Internet. Misogynistic behavior and sexist nicknames may be rated more harassing on the Internet because the words are written out rather than verbally expressed, making them more salient to the victim. Comments about dress may also seem more harassing on the Internet because of the inappropriateness given the lack of face-to-face contact. Also, requests for company may be less harassing on the Internet because it is easier to avoid the person, making the situation less immediate to deal with. Also, more women than men rated online pictures (e.g., "Jane does not like going to Professor Y's official website which contains PowerPoint slides of his lectures, because some of the slides contain pictures that can be considered pornographic in nature. He argues that this is to help maintain student interest."), jokes (e.g., "In their discussion online, Jane's professor, Professor C, always makes sexually stereotyped jokes, remarks, and references."), and requests for company as harassing.

Cyber-stalking. Another area of research that has provided insight into cyber-sexual harassment is cyber-stalking. Bocji (2004) defined cyber-stalking as a group of behaviors in which the use of information and communications technology is intended to cause emotional distress to another person. Behaviors associated with cyber-stalking

include making threats, false accusations (false-victimization), abusing the victim, attacks on data and equipment, attempts to gather information about the victim, impersonating the victim, encouraging others to harass the victim, ordering goods and services on behalf of the victim, arranging to meet the victim, and physical assault. Many of the same behaviors found in cyber-stalking have been linked to cyber-sexual harassment. Furthermore, behaviors seen with cyber-stalking would be considered sexual coercion on the Internet (e.g., explicit threats to harm the Internet user or the user's friends or family, threats to harm the user's property, or even following the user's Internet activity; Barak, 2005).

Theoretical explanations for cyber-sexual harassment. Power has been shown to be a major factor in face-to-face sexual harassment (Bargh & Raymond, 1995; Stockdale et al., 1995). Examining the relationship between power and sexual attraction, Bargh and Raymond (1995) found that men will unconsciously misuse power in sexually harassing women. This may also be the case in cyber-sexual harassment. Being sexually attracted to another Internet user may bring the harasser to use his power to sexually harass the other Internet user. Similarly, cyberfeminists argue that it is the threat to Internet resources that brings male Internet users to sexually harass female Internet users (e.g., Brail, 1996). As women become more active on the Internet, men become threatened by women's growing participation in a space that has until recently been primarily dominated by men, ultimately leading to men cyber-sexually harassing women.

Furthermore, beyond the element of power, the online disinhibition effect provides additional explanation for the occurrence of cyber-sexual harassment and other deviant online behavior (e.g., cyber-stalking; Suler, 2004). Online disinhibition can appear in two different ways for Internet users: benign disinhibition or toxic disinhibition. Benign disinhibition includes sharing personal things about one's self (e.g., emotions, fears, wishes, acts of kindness and generosity). Toxic disinhibition is more of a compulsion and acting out with no personal growth (e.g., rude language, anger, hatred, threats,

looking at pornography, committing a crime, and acts of violence)—all of which a person is less likely to feel or do outside of the Internet. Suler (2004) identified a number of factors associated with online disinhibition. *Dissociative anonymity*, for example, allows Internet users to separate their in-person lifestyle and identity from the identity they create on the Internet. Thus, through dissociative anonymity the person may feel less vulnerable about self-disclosing and acting out. *Invisibility* enables people to visit sites and do things on the Internet that they would not do otherwise. Even though a person's true identity may be known among other Internet users, being physically invisible still amplifies online disinhibition. Lastly, *minimization of authority* occurs as online interactions feel more like peer relationships, allowing people to feel more willing to speak out and misbehave. Through these three factors, the online disinhibition effect enables Internet users, such as cyber-sexual harassers, to act out in such negative ways as to psychologically harm other Internet users. The online disinhibition effect disables the use of any masks that may exist for the Internet user in the presence of social norms and behavioral standards. Thus, when online, the person will behave more consistently with his or her true self. In the case of a person with the desire and intent to sexual harass, but refrains in doing so in person because of laws and other social expectations, through the online disinhibition effect, the person would be more inclined to sexually harass on the Internet.

Current Study

Based on research findings on face-to-face sexual harassment and cyber-stalking, a preliminary definition of cyber-sexual harassment was developed for the current study: any gender-/sex-related comment received or image viewed that causes the individual to experience psychological discomfort (i.e., feelings of awkwardness, discomfort, and lack of safety). This definition guided the current exploratory study of the experiences that may constitute sexual harassment encountered while on the Internet.

Method

Twenty-four female undergraduate students (age $M = 20$) from a medium-sized Midwestern university participated. Participants were recruited through the Housing and Residence Life summer student staff and psychology courses being taught in the summer semester. Only females were asked to participate, given the focus of the study was on Internet experiences similar to sexual harassment, and previous research has shown that women are more likely than men to identify sexual harassment experiences (Stockdale et al., 1995). Nine focus group sessions, each with two to six people, were conducted. Each session ran approximately one hour. Guided by predetermined questions, these groups discussed their positive and negative experiences on the Internet. The complete list of questions can be found in Appendix A. Along with the list of questions, follow-up questions were asked in the case of a participant leaving out descriptive details about a particular experience such as when and where the experience occurred, who it was implemented by, and how often similar experiences have occurred. The researcher took handwritten notes of the sessions. Participants were given \$10 as compensation.

Results

Cyber-Sexual Experiences Questionnaire

Information gathered from the focus groups regarding specific experiences was used to create the Cyber-Sexual Experiences Questionnaire (CSEQ; see Appendix B), modeled after the Sexual Experiences Questionnaire (SEQ) developed by Fitzgerald et al. (1988, 1995). For many years, the SEQ has been used by sexual harassment researchers as a means of measuring the prevalence of sexual harassment and whether or not someone labels his or her experience as sexual harassment (for review see Gutek, Murphy, & Douma, 2004). This self-report inventory allows respondents to indicate how often a given experience has occurred on a 5-point scale, ranging from 1 (never) to 5 (most of the time). In the development of the CSEQ, each item

used similar phrasing to the SEQ. Twenty-one items were created consisting of questions related to the participant's cyber-sexual harassment experiences. An item was created for every type of experience mentioned by more than one person in the focus groups (i.e., AIM/ Yahoo, Facebook/MySpace, pictures of genitalia, offers to have cyber-sex), and other experiences mentioned in Barak's (2005) initial findings of cyber-sexual harassment. Responses for the frequency of each item range between 1 (never) to 5 (most of the time). The last item ("In your experience on the Internet during the past 6 months, has anyone sexually harassed you?") is the only item to ask specifically about sexual harassment. All of the other questions focus on the experience being unwanted or the person feeling awkward or uncomfortable.

Common Themes

Keeping in mind the possibility of social desirability having some influence over responses, only the number and percentages of total participants were used to describe common themes seen throughout the focus groups. Every participant reported experiencing psychological discomfort (i.e., feeling uncomfortable, awkward with the experience, or unsafe) in talking with the harasser. One participant said she had been continuously pursued on MySpace by a few men sending her messages, telling her that she was "hot," and wanting to meet with her. She said that after a period of ignoring the messages, she eventually deleted her MySpace account to avoid any more messages. When asked if she would label her MySpace experience as sexual harassment on the internet, she said, "I would probably consider it sexual harassment, people making comments about your body. Although a more minor form of sexual harassment, not really extreme where I felt my life was in danger...."

Of the 24 participants, 15 (62.5%) indicated using some form of peer-to-peer communication program, such as AOL Instant Messenger (AIM), Yahoo Messenger, or Skype. Of this group, all 15 described experiences of making the participant feel uncomfortable, awkward, or unsafe. Unwanted sexual attention

emerged in the reported experiences (just as Barak, 2005, had described). Also, similar to face-to-face sexual harassment experiences related to unwanted sexual attention, common themes in messages received included offers to have cyber-sex, to see genitals, and to watch the harasser masturbate on webcam. Other themes included comments on appearance, attempts to get the participant to talk about her sex life, and inquiries to meet in person. While online, one participant received an instant message from an unknown person stating, "Hello, I'm masturbating on my webcam." In one instance a participant described, she was chatting to a male friend on Yahoo messenger when he changed his message box icon to a picture of his penis. "We weren't even talking about anything sexual." She went on, "He suggested that we have internet sex/cybersex." A different participant mentioned one experience with a coworker. She said that one day they were talking through AIM when he commented on her appearance. "You look good right now," he said. She thanked him for the compliment, but he began to ask her about her sex life. He went on to say, "You should try me out." After repeatedly telling him to stop, she reported him to her supervisors and he was fired.

Twenty (83%) of the focus group participants reported the use of social networking Web sites such as Facebook and MySpace. Of these participants, 12 (60%) reported some negative experience that made the participant feel uncomfortable, awkward, or unsafe. Of the experiences described, comments related to attractiveness or specific body parts directly sent to participants and comments attached to posted pictures were the most common. A participant said that unknown men oftentimes send her messages on MySpace stating, "Oh you look hot, I wanna get with you." Another participant said that a male friend commented on a picture she had posted on Facebook of herself, saying, "Wow, I didn't know your boobs were that big!" Although not related to sexual harassment, in one instance related to Facebook experiences, a participant described how over a year ago, someone had hacked her Facebook account, sending false mes-

sages to her friends saying she had done certain activities with their boyfriends. The hacker then sent threats directly to her. After repeated attempts to get the hacker to stop, she just deleted her Facebook account.

A "Facebook stalker" also unintentionally emerged through discussions in the focus groups. Four participants mentioned vague descriptions of Facebook stalkers. One participant described her stalker's behavior: "This guy requested me as a friend on Facebook. He would then send me messages once in a while. It then became every day. He then began to send me instant messages as well. It became too much and I blocked him from my Facebook and AIM account." Another participant mentioned a time during her freshman year when a friend had a Facebook stalker: Her friend had posted her home address, phone number, and other personal information, and the police ended up getting involved.

Defining and Labeling Cyber-Sexual Harassment

While self-labeling was not directly examined in the current study, at the end of each focus group, participants were asked how they defined sexual harassment and what influenced whether they labeled their own experiences as sexual harassment. Although only 10 participants (45.8%) reported being sexually harassed on the Internet by the end of the focus group, by the initial definition established from this study, all 24 participants experienced cyber-sexual harassment through social networking Web sites such as Facebook or Myspace, peer-to-peer interaction programs such as AOL Instant Messenger and Yahoo Instant Messenger, and/or e-mail. The act being intentional and repetitive, causing discomfort, and personally targeting the Internet user were most common reasons for labeling an experience as sexual harassment. For example, when asked if spam (i.e., misleading links to pornographic Web sites) through AIM could be considered a form of sexual harassment, one participant stated, "Probably not, I feel that sexual harassment has to have a more personal tone to it, but it's a site not known to me." When later asked if

comments in public sites directed toward them would be considered sexual harassment, the same person responded, "If someone posts a comment on your [Facebook] wall seeking you out, targeting you with the comment, then yes." In a different focus group, the group was asked if they would label their experience as sexual harassment if they received an instant message from a male they knew that made them feel uncomfortable. One participant stated:

It's about quantity, if it happens once and you say no, then they stop, then no. But if every week, then maybe. But on the Internet, people can only get so far. I only worry or take action when it gets physical.

A few participants who did not label their experiences compared their definition of online sexual harassment to what they would see in face-to-face sexual harassment. One woman said:

It's easier to identify sexual harassment with face-to-face, but not person-to-computer-to-person. There are just so many things you can do online to protect yourself, but not when they are in your face. When I think of sexual harassment, I think of physical, any unwanted sexual contact.

Others mentioned how they could just click out of message boxes, spam advertisements, and other programs or messages that made them feel uncomfortable: "Even if it does [make me feel uncomfortable], I just click out of it." In having that capability, they said they would not label their experiences as sexual harassment.

Avoidance as Coping Strategy

One theme that emerged in the focus groups that was not expected was the avoidance of certain Web sites or activities. Many described the people participating at these Web sites or in these activities as "creepy" and "freaks." Such places included MySpace, AIM/Yahoo, and chat rooms. One participant mentioned, "I used to have MySpace, don't really use it anymore. Perverts and

random guys would always try to add me as a friend, sending me messages, 'Hey, you're hot,' or send me links." Many mentioned the avoidance of chat rooms today, while acknowledging previous use. One participant mentioned that when she was a sixth grader, she used to go into chat rooms, where men would ask for personal information such as age, gender, and where she lived. Another participant said, "While in a chat room once, a person [instant messaged] me and asked if I wanted to have cybersex. I told him that it was disgusting and rude for him to say that and closed the box." Just as avoidance of a behavior has been shown to be a coping strategy in face-to-face sexual harassment (Magley, 2002), the same reaction to online sexual harassment appears to be taking place.

Discussion

The primary purpose of this study was to establish a better understanding of cyber-sexual harassment through the development of a measure that explores the various online experiences related to cyber-sexual harassment. Although this is not the first attempt to identify the existence of cyber-sexual harassment (see Barak, 2005), the use of the CSEQ, once validated, will provide sexual harassment researchers the ability to further examine the type of experiences and even the self-labeling of cyber-sexual harassment. Through parallels in experiences between cyber-sexual harassment and face-to-face sexual harassment, the definition of the latter is used to establish a foundational definition of the former. Currently many universities, other organizations, and courts adopt the U.S. Equal Employment Opportunity Commission's definition of sexual harassment:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when this conduct explicitly or implicitly affects an individual's employment, unreasonably interferes with an individual's work performance, or creates an intimidating, hostile, or offensive work environment (EEOC, 2004).

While this definition may be applied to online situations in defining sexual harassment, giving cyber-sexual harassment a more specific definition will allow for better protection of Internet users.

The initial definition created for this study is as follows: any gender-/sex-related comment received or image viewed that causes the individual to experience psychological discomfort (i.e., feelings of awkwardness, discomfort, and lack of safety). As more literature on cyber-sexual harassment emerges, the definition should develop into a clear and concise definition with the potential to be used in applied settings by governments, workplaces, organizations, and the home.

Although the purpose of this study was to gather information on the type of situations that potentially could be experienced as sexual harassment on the Internet, hypotheses of the existence of and various experiences encompassing cyber-sexual harassment posed from previous research (e.g., Barak, 2005) were supported as well. We now know that cyber-sexual harassment does in fact occur, particularly in peer-to-peer message programs (e.g., AIM and Yahoo Messenger) and social networking Web sites (e.g., Facebook and Myspace). Other places of cyber-sexual harassment include e-mail and Web sites where video and pictures are posted. Through these findings not only was cyber-sexual harassment shown to exist, but various types of experiences (e.g., chatrooms, instant messenger, e-mail) considered as cyber-sexual harassment were identified as well.

The development of the questionnaire should contribute to further research on cyber-sexual harassment, as well as elicit further exploration of the relationship between women and the Internet. As mentioned earlier, future research should be conducted to validate the CSEQ. It is also important to make attempts to expand on the questionnaire, revising the items as seen fit based on the participant pool and further investigation of cyber-sexual harassment experiences. Ultimately, the Internet creates a lack of accountability, unclear legal boundaries, invisible authorities, and insignificant sanctions, therein enabling harassers to act as they like without any restraints

(Barak, 2005). Furthermore, in furthering research on cyber-sexual harassment, the CSEQ may potentially play a significant role in pushing legislators to adapt a legal definition of cyber-sexual harassment and laws against it for protecting Internet users.

The limitations of this study are the amount of time and the number of participants. Due to the limited time to conduct the study over the summer, the Cyber-Sexual Experiences Questionnaire was not validated. At the time of publication, plans are being made to validate the measure. Also, due to the study being conducted over the summer, only 24 participants took part. Furthermore, because of the relatively small group of only college students, precaution must be taken in making generalizations of the study's findings.

As for directions for future research, further exploration of Facebook stalking may be of interest. From the focus groups, it appears as though the Facebook stalker is very similar but more specifically target-focused in comparison to the cyber-stalking description given by Bocji (2004). It may be of interest to further explore what exactly a Facebook stalker entails and how it compares to other forms of cyber-stalking. Another area of interest for future research may be cyber-sexual harassment coping strategies. As in the focus groups, when participation on a Web site or program leads to a negative social interaction where a woman feels uncomfortable, she may go as far as to no longer take part in the online activity to avoid the experience again. Further examining why this type of coping strategy is taking place may give deeper insight into implications for future Internet use by the cyber-sexual harassment victim.

Appendix A: Interview Questions

1. What do you like to do for fun during the school year?
2. Please describe your social experiences online?
 - What do you usually do on the Internet?
 - Do you talk with people? If so, where?
3. What sorts of positive experiences have you had while communicating with others on the Internet? Through things such as instant message, e-mail, and message boards.
4. What sorts of negative experiences have you had while communicating with others on the Internet? (instant message, e-mail, message boards)
5. Have you, or someone you know, ever felt uncomfortable or awkward from a comment made by someone directly toward you on the Internet? If so, please explain.
6. What about comments on a chat room, message board, or other site where many people have access to the comment? If so, please explain.
7. Have you or anyone you know ever been sent an offensive picture/image or video? If so, please explain.
8. What about pictures/images or video on an actual Web site you've visited? If so, please explain.
9. On the Internet, has anyone ever made comments about your body or sexual comments that made you feel uncomfortable or awkward? If so, what happened?
10. Are there any other experiences you've encountered on the Internet that made you feel uncomfortable, unsafe, or awkward?

Appendix B: Cyber-Sexual Experiences Questionnaire

YOUR INTERNET EXPERIENCES

The following questions ask about your experiences on the Internet. Some of the questions may seem very personal. We ask them because people are not always treated with respect on the Internet. Such behavior can take many different forms. To understand what is happening on the Internet, we have asked some very frank questions. It is important for you to take your time and to answer as honestly as possible. Remember that you can skip any questions that you do not want to answer and that YOUR ANSWERS ARE COMPLETELY CONFIDENTIAL.

**In your experiences on the Internet
DURING THE PAST 6 MONTHS,
has anyone...**

	Never	Once or Twice	Some- times	Often	Most of the time
1. ...told you offensive dirty stories or jokes?	1	2	3	4	5
2. ...tried to get you to talk about personal or sexual things?	1	2	3	4	5
3. ...said crude or gross sexual things to you?	1	2	3	4	5
4. ...said offensive things about how you look, your body, or your sex life?	1	2	3	4	5
5. ...tried to have a romantic or sexual relationship even though you tried to let him know you didn't want to?	1	2	3	4	5
6. ...said things to put women down (for example, saying that women don't belong on the Internet)?	1	2	3	4	5
7. ...kept asking you to meet or go on a date even after you said "no"?	1	2	3	4	5

8. ...made dirty remarks about women in general (for example saying that all women are whores)?	1	2	3	4	5
9. ...called you a lesbian or a “dyke”?	1	2	3	4	5
10. ...sent you an offensive “dirty” video or picture/image?	1	2	3	4	5
11. ...left a sexual comment or posted a picture of you?	1	2	3	4	5
12. ...tried to get you to watch him masturbate on a webcam?	1	2	3	4	5
13. ...tried to get you to have cyber-sex over instant messenger?	1	2	3	4	5
14. ...sent you spam that advertised for penis or breast enlargement or pornographic Web sites?	1	2	3	4	5
15. ...sent pop-ups with links to pornographic Web sites?	1	2	3	4	5
16. ... left an offensive “dirty” comment on a Facebook, MySpace, or similar Web site’s wall?	1	2	3	4	5
17. ...sent messages that refer to or ask about your body, sex life, or intimate subjects (for example asking if you are on your period right now)?	1	2	3	4	5
18. ...threaten to break into your computer and cause damage if you did not conduct the sexual act requested (for example describing giving the person oral sex)?	1	2	3	4	5
19. ...sent frightening e-mails, viruses, flooded e-mail inbox to get you to perform sexual acts (for example cyber-sex)?	1	2	3	4	5
20. ...bribed you conduct sexual acts (for example offering to send you money if you send him/her sexual pictures)?	1	2	3	4	5
21. ...sexually harassed you?	1	2	3	4	5

References

- Barak, A. (2005). Sexual harassment on the internet [Electronic version]. *Social Science Computer Review*, 23(1), 77-92.
- Bargh, J. A., & Raymond, P. (1995). The naive misuse of power: Nonconscious sources of sexual harassment. *Journal of Social Issues*, 51(1), 85-96.
- Biber, J. K., Doverspike, D., Baznik, D., Cober, A., & Ritter, B. A. (2002). Sexual harassment in online communications: Effects of gender and discourse medium [Electronic version]. *CyberPsychology & Behavior*, 5(1), 33-42.
- Bocij, P. (2004). *Cyberstalking: Harassment in the internet age and how to protect your family*. Westport, CT: Praeger.
- Brail, S. (1996). The price of admission: Harassment and free speech in the wild, wild west. In L. Cherny & E. R. Weise (Eds.), *Wired women: Gender and new realities in cyberspace* (pp. 141-157). Seattle: Seal Press.
- Dansky, B. S., & Kilpatrick, D. G. (1997). Effects of sexual harassment. In W. O'Donohue (Ed.), *Sexual harassment: Theory, research, and treatment* (pp.152-174). Needham Heights, MA: Allyn & Bacon.
- Fitzgerald, L. F., Drasgow, F., Magley, V. J. (1999). Sexual harassment in the armed forces: A test of an integrated model. *Military Psychology*, 11(3), 329-343.
- Fitzgerald, L. F., Gelfand, M., & Drasgow, F. (1995). Measuring sexual harassment: Theoretical and psychometric advances. *Basic and Applied Social Psychology*, 17, 425-445.
- Fitzgerald, L. F., Magley, V. J., Drasgow, F., Waldo, C. R. (1999). Measuring sexual harassment in the military: The Sexual Experiences Questionnaire (SEQ-DoD). *Military Psychology*, 11 (3), 243-263.
- Fitzgerald, L. F., Shullman, S., Bailey, N., Richards, M., Swecker, J., Gold, A. J., & Weitzman, L. (1988). The incidence and dimensions of sexual harassment in academia and the workplace. *Journal of Vocational Behavior*, 32, 152-175.
- Gutek, B. A., Murphy, R. O., & Douma, B. (2004). A review and critique of the sexual experiences questionnaire (SEQ). *Law and Human Behavior*, 28(4), 457-482.
- Griffiths, M. (2000). Internet addiction – Time to be taken seriously? *Addiction Research*, 8, 413-418.
- Magley, V. J. (2002). Coping with sexual harassment: Reconceptualizing women's resistance. *Journal of Personality and Social Psychology*, 83(4), 930-946.
- Magley, V. J., Hulin, C. L., Fitzgerald, L. F., & DeNardo, M. (1999). Outcomes of self-labeling sexual harassment. *Journal of Applied Psychology*, 84, 390-402.
- Magley, V. J., & Shupe, E. I. (2005). Self-labeling sexual harassment. *Sex Roles*, 53(3/4), 173-188.
- McMaster, L. E., Connolly, J., Pepler, D., & Craig, W. M. (2002). Peer to peer sexual harassment in early adolescence: A developmental perspective. *Development and Psychopathology*, 14, 91-105.
- Petrocelli, W., & Repa, B. K. (1998). *Sexual harassment on the job: What is it and how to stop it* (4th ed.). Berkeley, CA: Nolo.
- Pryor, J. B., Giedd, J. L., & Williams, K. B. (1995). A social psychological model for predicting sexual harassment. *Journal of Social Issues*, 51(1), 69-84.
- Stockdale, M. S., Vaux, A., & Cashin, J. (1995). Acknowledging sexual harassment: A test of alternative models. *Basic and Applied Social Psychology*, 17(4), 469-496.
- Suler, J. (2004). The online disinhibition effect [Electronic version]. *CyberPsychology & Behavior*, 7(3), 321-326.
- Till, F. J. (1980). *Sexual harassment: A report on the sexual harassment of students*. Washington, DC: National Advisory Council on Women's Educational Programs.

- Timmerman, G. (2003). Sexual harassment of adolescents perpetrated by teachers and by peers: An exploration of the dynamics of power, culture, and gender in secondary schools. *Sex roles*, 48, 231-244.
- The Pew Internet and American Life Project. (2005). How Women and Men Use the Internet. Available at: http://www.pewinternet.org/pdfs/PIP_Women_and_Men_Online.PDF. Accessed on March 15, 2005.
- U.S. Equal Employment Opportunity Commission. (2004, March 4). *Sexual Harassment*. Retrieved August 7, 2008, from http://www.eeoc.gov/types/sexual_harassment.html
- Spitzberg, B., & Hoobler, G. (2002). Cyberstalking and the technologies of interpersonal terrorism. *New Media & Society*, 4(1), 71-92.
- van Roosmalen, E., & McDaniel, S. A. (1998). Sexual harassment in academia: A hazard to women's health. *Women & Health*, 28(2), 33-54.
- Whitty, M. T. (2004). Should filtering software be utilised in the workplace? Internet in the workplace. *Surveillance and Society*, 2(1), 39-54.

School of Choice and Diversity



Megan Taliaferro
McNair Scholar



Jennifer Stewart, Ph.D.
Faculty Mentor



Lisa Hickman, Ph.D.
Faculty Mentor

In recent decades school of choice policies have become increasingly widespread and diverse (Henig 1994). According to the National Center for Education Statistics (NCES), between 1993 and 2003, the percentage of students attending their assigned public school district dropped from 80 percent to 74 percent. Private school enrollment in both religious and secular schools remained at 8 and 2 percent, respectively. Therefore, the change is due to the increase in public school choice, which rose from 11 to 15 percent in the ten-year period (NCES 2007).

Many advocates see increased choice policies as an important tool to empower parents, especially parents with limited resources, because it allows them to take an active role in their children's education. Ideally, school of choice is the key to equality in educational opportunity because it would allow students and parents to escape "failing" school districts and receive a better quality education. Whether school of choice policies are actually increasing educational equality, however, is questionable, partly due to recent studies which have found that American schools are rapidly undergoing a trend toward resegregation (Orfield and Eaton 1996; Orfield 2001; Clotfelter, 2001; Hochschild and Scovroncick 2003).

This trend could suggest that school of choice simply replaces the old stratification system with a new one by allowing able and willing parents to leave undesirable districts but not addressing the needs of the districts themselves. Studies conducted to determine the success of school of choice policies have been inconsistent in their results. Many studies have determined that African Americans and Hispanics are more likely to take advantage of school of choice, thus increasing their opportunities to education (Chubb and Moe 1996; Coleman, Schiller, and Schneider 1993; Hoxby 1998; Wolf, Howell, and Peterson 2000). Other studies, however, conclude that school of choice is a conservative solution to the problem

of education inequality because the policies may inherently benefit those with more resources and may contribute to increased segregation by race and class (Smith and Meier 1995; Henig 1996; Saporito and Lareau 1999; Witte 2000; Clotfelter, 2001; Saporito 2003; Tedin and Weiher 2004; Prins 2007; Mickelson, Bottia, and Southworth 2008).

In this case study, I analyze the demographic changes in districts as a result of interdistrict school of choice in a mid-sized city in Michigan. I also apply Bonilla-Silva's (2006) frames of abstract liberalism and cultural racism to investigate how parents' use of school of choice may contribute to trends in large-scale resegregation.

WHAT IS SCHOOL OF CHOICE?

School of choice can be defined as "the freedom for families to send their children to educational settings other than the one public school within their attendance zone" (Good and Braden 2000:5). A more complex explanation of school choice, given by Henig (1994), is:

Choice plans can be based on vouchers, tuition tax credits or administrative procedures. They may allow parents virtually unconstrained freedom to select the school of their choice, or they may impose a complicated regulatory framework on both parents and students to select a school. Choice plans may be limited to public schools, may include non parochial private schools, or may include all schools. They may be district wide or cross district boundaries. They may be locally initiated, encouraged by state incentives, mandated by state law, or stimulated by federal grants. (P. 4)

What Henig draws our attention to is the complexity of school of choice policies. There is incredible variation between states, counties, districts, and even indi-

vidual schools. In addition, as school of choice continues to expand, more nontraditional types of school choice continue to emerge, changing the way individuals and public schools relate to one another.

Types of Choice

Types of school choice can be divided into two broad categories: traditional and nontraditional (public). Traditional school choice has long coexisted with public schools and is not a direct function of the public school system. Traditional types of choice include residential selection (or residential relocation), home schooling, and private schools. Nontraditional types of choice are the types of choice that were largely introduced in the aftermath of *Brown v. Board of Education* and rapidly expanded in the choice movement of the 1980s and 1990s. Public school of choice can be divided into four broad types of plans: charter schools, magnet schools, intra- or interdistrict choice plans (also referred to as open enrollment), and vouchers (Mickelson et al. 2008).

Traditional Choice

Residential selection is the most common of all of the types of school choice (Godwin et al. 1998). Residential selection is the practice of buying a house in a neighborhood for the purpose of gaining access to a particular school or district. According to the United States Department of Education, one in four families nationwide buy a home in a specific neighborhood for the purpose of gaining access to the school district (NCES 2004). This practice alone likely plays an essential role in the level of school segregation, especially given the residential housing patterns, or “white flight” phenomena, that followed the desegregation plans in the 1960s and 1970s (Coleman, Kelly, and Moore 1975; Farley 1975; Giles 1978; Sly and Pol 1978). In the wake of desegregation attempts, many cities across the country experienced “white flight,” which is defined as the substantial out-migration of Whites into the suburbs (Renzulli and Evans 2005).

Private schools are schools that require

families to pay tuition to gain access and can even have specific admissions policies. Private schools can be religious or secular. One-fourth of all private schools are secular schools that serve wealthy, elite families (Mickelson et al. 2008). In 2007, 8 percent of the student population attended a private religious school and 2 percent attended a private secular school (NCES 2007). White enrollment rates in private schools are highest in districts with a large percent of Black students, with 1 out of every 10 White children attend private schools, versus 1 out of every 25 Black children (Johnson 2006). In addition, 80 percent of private school students reside in urban areas and White enrollment in private schools is highest in districts that have the highest percent of Black enrollment (Mickelson et al. 2008). Thus, private schools may function, at least to some degree, as one way for White middle- and upper-class families to avoid largely poor and minority urban districts (Johnson 2006).

Finally, the last type of traditional choice is home schooling. Home schooling is a diverse practice with a wide range of curriculum, structure and test requirements, which varies greatly by state and individual (Rudner 1999). As of 2008, there was an estimated 1.35 million students (2.2 percent of the nation’s school population), being home schooled. Whites are twice as likely as African Americans and four times as likely as Hispanic students to be home schooled (Mickelson et al. 2008).

Traditional school of choice is primarily a middle- and upper-class option. Residential relocation is often expensive because most states rely heavily on property tax for school funding. The most desirable schools are often the schools with the most funding, which are located in the neighborhoods with the highest property values. Private schools often require heavy parental involvement, substantial tuition costs, and the additional cost of transportation arrangements, class trips, and other extracurricular activities. Home schooling requires a full-time parent or a hired tutor, plus the cost of necessary materials. Therefore, because traditional types of choice require a good amount of financial investment, time, and resources, families with an economic ad-

vantage have an inherent benefit. Many proponents for school choice argue that nontraditional school of choice (public school choice) is intended to level the playing field by allowing students of all social classes access to the same type of choices that have long been available to middle- and upper-class families (Mickelson et al. 2008).

Public School Choice

There are four main types of public school choice: magnet schools, inter- or intradistrict choice between traditional public schools, charter schools, and vouchers. Magnet schools were first introduced in the 1970s as a voluntary integration method (Wells 1993). Magnets can be schools within schools or separate buildings that are focused around a particular themed curriculum or field of study (such as arts and humanities or discovery learning) (Mickelson et al. 2008). Today, more than half of all states have either full or partial magnet programs that serve 3 percent of the total public school population in the United States (NCES 2007). Magnet schools are usually part of an intradistrict choice plan (choice of individual schools within a single district) and in rare occasions can be included in interdistrict choice plans (the choice to attend a school outside the resident district).

Inter- or intradistrict choice between traditional public schools allows students to attend another participating public school. Intradistrict choice restricts students’ choice to schools within the resident’s district. If the district is small then there often are very limited or sometimes no choices actually available. Interdistrict choice plans, or open enrollment plans, often offer more choices because they allow students to transfer to schools outside of their assigned district. In recent years, interdistrict open enrollment plans have continued to expand, and interdistrict desegregation plans have become increasingly rare (Mickelson et al. 2008). The first open enrollment plan was introduced in 1988 in Minnesota and allowed students to transfer to any district in the state as long as the school had space and it did not interfere with racial integration efforts (Cookson and Shroff 1997). By

2007, forty-six states had passed varying degrees of interdistrict and/or intradistrict public choice plans (NCES 2007).

Minnesota was also home to the first charter school, which opened its doors in 1992 (Hassel 1999). By 2005, forty states and the District of Columbia permitted the operation of charter schools (NCES 2007). Charter schools are publicly funded schools that are created by universities, community colleges, intermediate school board districts, or local districts. Like magnet schools, many charter schools are themed schools, with more than 80 percent having a specific emphasis or curriculum (Mickelson et al. 2008).

Finally, publicly funded vouchers are the newest and most limited type of school choice (Mickelson et al. 2008). Public vouchers are public funds allotted to families to attend private institutions. Most statewide programs give vouchers only to low-income families in poorly performing schools. In 2002, the U.S. Supreme Court extended the use of vouchers to also include parochial schools. As of 2007, publicly funded voucher programs were permitted in seven states and the District of Columbia.

With the implementation and expansion of school of choice policies, American public schools are undergoing a transformation. Increased school choice is changing the education institution by changing the relationship between individuals and public schools and between communities and public schools (Plank and Sykes 1999). Along with the changes associated with increased choice, American public schools are also experiencing another change, namely a recent trend toward resegregation (Orfield and Eaton 1996; Orfield 2001; Clotfelter, 2001; Hochschild and Scovroncick 2003).

SCHOOL SEGREGATION

Despite mounting evidence regarding the benefits of a diverse educational setting, levels of segregation in schools continue to rise. In 2006, research from the last fifty years was summarized in a state-

ment submitted by 553 social scientists to the Supreme Court, which concluded that integrated schools offer better opportunities and produce significant benefits for all students. These benefits include higher academic achievement, the breakdown of the intergeneration transmission of racial prejudices and misunderstandings, and the preparation for students to work together and succeed in an increasingly pluralistic country and global economy (Mickelson et al. 2008). Also, according to Frankenberg, Lee, and Orfield (2003) of the Harvard Civil Rights Project, research shows us:

Segregated schools have much higher concentrations of poverty and other problems and much lower average test scores, levels of student, teacher qualifications, and advanced courses. With few exceptions, separate schools are still unequal schools. (P. 11)

Nevertheless, researchers have found that American public schools, specifically those in large and mid-sized cities, are undergoing rapid resegregation (Orfield and Eaton 1996; Orfield 2001; Clotfelter, 2001; Hochschild & Scovroncick 2003). This trend persists even despite the increase in minority student enrollment in public schools. Since the 1960s the number of African American and Hispanic students in public schools increased by 5.8 million students. Conversely, the number of White students in the nation's public schools declined by 5.6 million (Orfield 2001).

Racial segregation is also often strongly related to class segregation (Johnson 2006). Students who attend highly segregated minority schools are fourteen times more likely to attend a school that has a high percentage of students living in poverty than students who attend a school that is less than 10 percent Hispanic or African American (Godwin et al. 1998). Minority families are also disproportionately low-income; therefore, many schools that are segregated by race are also segregated by class. Because American public schools have been historically structured around neighborhoods and given that

class (along with race) often characterizes residential housing patterns, school demographics often reflect the race and class segregation present in American neighborhoods (Johnson 2006).

Although American schools are segregated by both race and class, unlike class segregation, racial segregation in schools was once mandated by law. Legal segregation for African Americans in public schools was not officially ruled unconstitutional until the *Brown v. Board of Education* ruling in 1954.¹ This ruling, although momentous, did not lead to the immediate desegregation of public schools. Many southern counties and districts put off the mandate or openly refused to adhere to it (Ryan 2004). Hispanic Americans were not granted the right to desegregate until 1973, and even then the ruling was not strongly enforced (Orfield 2001). Consequently, today, Hispanics are more segregated both by race and poverty than any other minority group.

In the case *Millikin v. Bradley*,² integration efforts encountered another obstacle when the U.S. Supreme Court ruled that mandatory desegregation plans in Detroit, Michigan, that crossed city-suburban boundaries were unconstitutional. This greatly halted the efforts to desegregate schools in Michigan and in many urban areas around the country which were already highly segregated. After this ruling, urban areas became even more segregated by race and class. By 2000, these urban areas showed the highest levels of segregation (Orfield 2001)

In 2003, a report by the U.S. Department of Education revealed that 70 percent of White students attended schools that are at least 70 percent White (as cited in Johnson 2006). A study by Orfield and Yun (1999) also found that in industrial states over 50 percent of Black students attend schools that are over 90 percent non-White (Johnson 2006). Segregation in public schools is now more pronounced today than it was just 12 years ago and continues to worsen (Orfield 2001). Because school of choice policies increased during the same period, it is important to ask if a

¹ 347 U.S. 483 (1954).

² 418 U.S. 717 (1974).

relationship exists between increased school of choice and resegregation in public schools.

HISTORY OF SCHOOL CHOICE AND RACIAL SEGREGATION³

Segregation and the historical development of school of choice policies have a paradoxical relationship. Historically, some choice policies were advocated and/or implemented as a way to avoid racial integration and others as a way to promote racial integration. Understanding the dichotomous role of segregation in the historical development of school choice is an important step toward analyzing the potential and current role school of choice policies may have on integration patterns.

Strong support for choice programs first occurred during the decade following the 1954 *Brown v. Board of Education* ruling, in the form of private school enrollment (Ryan 2004; Wraga 2006). Early school choice advocates in the South used traditional types of choice such as private schooling, home schooling, and even residential relocation as a way to resist mandatory desegregation plans. For example, between 1964 and 1969, private school enrollment in the South grew tenfold (Rabkin 1989). Ryan (2004) states that whether or not this enrollment trend is a response to desegregation mandates is sometimes disputed, “but the timing and location of the schools, as well as the candid admissions by those who created and attended them, all demonstrate quite clearly that avoiding integration was the main impetus for their creation” (1637).

This post-*Brown* era is also when inter- and intradistrict open enrollment plans, which White southerners rallied for under the phrase “freedom of choice,” were first advocated as a resistance strategy against mandatory integration (Ryan 2004). Under this type of choice White families were able to choose all-White

schools, and through threats, intimidation, and even violence, African Americans were discouraged or even physically prevented from choosing White schools. These early open-enrollment plans did nothing to achieve integration because no White families enrolled in Black schools and only a handful of Black students enrolled in White schools (Mickelson et al. 2008). The U.S. Supreme Court later ruled that interdistrict choice plans alone were not a sufficient plan to achieve integration and more mandatory desegregation and busing plans were established to meet court orders to desegregate.

The first magnet programs were introduced in 1970 in response to the strong opposition by the White majority against mandatory busing and desegregation plans and as a result of decreasing White enrollment in public school. This decrease in White students enrolled in public schools was likely a result of traditional school choice among White families (specifically home schooling and private schooling) which was widely exercised to avoid integrated schools. By providing a unique theme and specialized curriculum, school administrators hoped to initiate voluntary desegregation by establishing a desirable alternative to traditional public schools that would attract students of every race and class group (Wells 1993). In addition, most early magnet programs also practiced “controlled choice” to ensure that magnet schools would indeed create intended diversity (Mickelson et al. 2008).

Although race played an overt role in the school of choice policies in the decades following the *Brown v. Board of Education* ruling, when school of choice reemerged as a dominant social policy issue in the “politically correct” decades of the 1980s and 1990s, like many social policies, school of choice and race interacted on a more complex and covert level. According to Bonilla-Silva (1996), four elements of contemporary racial practices can further explain the

societal transition. He states that racial practices: “1) are increasingly covert, 2) are embedded in the normal operations of institutions, 3) avoid direct racial terminology, and 4) are invisible to most Whites” (p. 476). Thus, like many social issues, race was rarely discussed in direct terms like in the Civil Rights and post-Civil Rights era, but often remained an underlying factor.

Support for school of choice has also shifted in recent decades to create an unlikely alliance between poor and minority families and conservative republicans (Ryan 2004). While conservatives support notions of school choice based on values rooted in individualism, free market principles, and less government control, minority and low-income families, who are largely concentrated in struggling, underfunded urban schools, supported choice as a last effort to access an equal education (Ryan 2004). The support of choice by African Americans is ironic because support for school of choice by African Americans would have been unheard of in earlier decades, considering the initial function of school choice as a tool to refuse integrated schools.

In addition to the shift in support for school of choice, choice policies themselves have also largely abandoned connections to race. Like many public policies in recent decades, school of choice has taken a seemingly “color-blind” approach and most policies lack any provisions to ensure racial integration. Newer types of choice policies such as charters and vouchers⁴ often do not have a direct tie to racial integration, and because of the diminished legal and political support for desegregation plans, many interdistrict choice policies and magnet schools have also abandoned racial provisions. In 2007, the Supreme Court declared voluntary desegregation plans in Louisville and Seattle unconstitutional because admissions relied too heavily on the race of the applicant⁵ (Mickelson et al.

³ Race has a much stronger historical tie to school of choice policies than class; therefore this section is focused primarily on the history of race and choice policies. However, it should be noted that because race is one of the primary (if not the primary) dimension associated with the unequal distribution of wealth (Johnson 2006), a history of racial segregation is also to a large extent also a history of class segregation.

⁴ Many voucher programs do target low-income families and this could in effect create a tie between race and choice, yet it is still not a direct connection as in previous types of school choice.

⁵ *Parents Involved in Community Schools v. Seattle School District #1*, et. al., 551 US. (2007).

2008). This new “color-blind” approach may mean that issues that relate to racial inequality or resegregation may become normalized as part of the “natural order” or may be ignored because the language to talk about race is becoming increasingly outmoded.

Therefore, school of choice has served three separate historic functions in regards to race. First, school of choice functioned primarily as a direct resistance tool against racial integration. Second, school of choice has functioned as a direct means to promote racial integration. Finally, the present state of school of choice seems to function independent of race (at least outwardly) and ironically has garnered support from the two camps that were previously in strong opposition.

Many researchers predict that choice policies today will actually promote the integration of schools by both race and class by giving poor and minority families more educational opportunities (Chubb and Moe 1996; Coleman et al. 1993; Hoxby 1998; Wolf et al. 2000). Many theorists assert that school of choice and market principles will not only provide more opportunities to those disadvantaged but also improve diversity because they predict the majority of families will choose a school based on academic quality and not the race or class composition, thus reducing segregation caused by housing patterns (Coleman 1992).

MARKET THEORY

The recent trend toward increased public school choice gained tremendous support after Chubb and Moe published a landmark book in 1990 titled *Politics, Markets and America's Schools*, which transitioned the choice discussion from a debate among policy makers and educational leaders to a mainstream public issue. Chubb and Moe (1990) argued that the problems facing American schools are due to the overall administrative structure of the institution, which is inhibited by bureaucracy and politics. One of their key assertions is that autonomous schools and increased choice, by way of competition and market forces, will bring the innovation, higher test scores, and even integration that were absent under

the current system.

Rational choice is the key postulation of market theory (Walberg 2000). Proponents of market theory believe that parents will make rational decisions regarding where to send their children to school, and this will also lead to a greater sense of empowerment among parents who gain more control over their children's education. The assumption is that parents will choose the schools that have high test scores, quality teachers, and high graduation rates. As parents chose high-performing schools, lower-performing schools will then be forced to raise their standards or shut down.

Market theory suggests that the result of rational choices and increased competition among districts will be the rise of overall standards and higher levels of parental satisfaction (Chubb and Moe 1990). School of choice could therefore promote equality because all individuals, regardless of race or class background, will have educational choices as a result of the competition. In addition, many believe that most parents will make decisions separate from race or class, which will in turn lead to more integration as all parents, regardless of race, choose schools based on quality (Chubb and Moe 1997; Coleman et al. 1993; Hoxby 1998; Wolf et al. 2000).

Despite potential equality, however, it is unclear whether market forces can adequately address problems facing schools that are struggling the most. According to Mickelson et al. (2008) from the Education Public Interest Center (EPIC), “because they [interdistrict open enrollment plans] are guided by competitive market forces, interdistrict open enrollment policies are not designed specifically to address the needs of students in failing urban schools” (p. 8).

Many researchers move beyond this and assert that school choice not only ignores the problems facing districts but could inevitably exacerbate the race and class inequalities entrenched in the current education system (Henig et al. 1999; Saporito and Lareau 1999; Renzulli and Evans 2005; Wells 1993). Because segregation patterns, like many large social patterns, are a result of many isolated individual decisions (e.g., the decision to use school of choice), if parents make

decisions that are influenced by race and class bias, more educational choices could actually increase the level of segregation. According to Saporito (2003):

In the case of segregation, a number of isolated individuals can make a series of private choices for houses, schools, social clubs and churches that satisfy their personal preferences. These individual choices have the cumulative consequence of changing existing patterns of segregation. Individuals making such choices are not joined in a collective effort to sustain segregation. Nor do they necessarily desire social segregation. (P. 182)

Thus, if policies do not include diversity provisions it is possible that individuals may employ abstract liberalism and cultural racism frames to make and validate decisions to use school of choice, which may contribute to the large-scale resegregation patterns in American schools.

ABSTRACT LIBERALISM AND CULTURAL RACISM

Abstract liberalism and cultural racism are two frames used by Bonilla-Silva (2006) in *Racism Without Racists* to explain colorblind racism, or more generally the covert role race still plays in our society. These frames were derived from patterns in individual responses to a survey regarding the persistence of racial inequality.

The frame of abstract liberalism involves using ideas associated with political liberalism (e.g., ‘equal opportunity,’ the idea that force should not be used to achieve social policy) and economic liberalism (e.g., choice, liberalism) in an abstract manner to explain racial matters. (P. 28)

Bonilla-Silva employs the example of housing segregation to illustrate how an individual can use the abstract liberalism frame to simultaneously seem “moral” (both to themselves and others) and remain unconcerned about racial inequalities and segregation in housing and neighborhoods. Abstract liberals

regard each person “as an ‘individual’ with ‘choices’” (p. 28) and thus justify the “right” for people to choose to live in segregated neighborhoods. Therefore, traditional liberal ideals used in an abstract manner can validate negative outcomes of school of choice, such as increased segregation, because it is viewed as a result of individual “freedom” and “choice.”

Although Bonilla-Silva (2006) uses this frame to describe an individual’s attitudes, the abstract liberalism frame can also be applied to social policies such as school of choice. According to John Gray (1986), there are several core features behind the idea of liberalism: individualism, egalitarianism, freedom, and meliorism (the belief that institutions and people can be improved). These are precisely the ideals that bolster support for school of choice policies, however, often with paradoxical meanings. For some, egalitarianism may be interpreted as equality in educational opportunity, while others may desire equality in educational outcome. In the same respect, freedom can mean a free market, “freedom of choice,” or the freedom to access a quality education.

The institution of education seems to be an arena where differing interpretations of liberal ideals collide. Liberal ideas can be distorted to justify inequality and preserve White privilege. School of choice policies are favored by many as a means to grant equality in opportunity, while making no provisions to ensure equality in outcome. Therefore, as school of choice policies expand, they may contribute to unequal outcomes—by failing to address the longstanding effects of discrimination and ignoring decades of forced segregation that inherently disadvantages minority groups—but still be viewed as a way to ensure equal opportunity by granting equal choice without racial provisions. However, simply granting the freedom to choose may not lead to equal opportunity because choice alone may not create desirable and realistic choices, and it does not address patterns that may arise from race or class biases.

Race or class bias may be rooted in

cultural racism, the second frame used by Bonilla-Silva (2006). Cultural racism “is a frame that relies on culturally based arguments such as ‘Mexicans do not put much emphasis on education’ or ‘Blacks have too many babies’ to explain the standing of minorities in society” (p. 28). Although Bonilla-Silva uses this frame to explain race, it can be extended to cultural classism, even claiming its roots in the “culture of poverty” frame (p. 40). Similar arguments such as “people are poor because they are lazy” are applied to justify class inequalities. Many of Bonilla-Silva’s respondents used this cultural racism (or cultural classism) to explain race or class inequalities.⁶

Despite a historical tie between race and government (i.e., years of legalized slavery, state-enforced segregation and miscegenation laws) most of the respondents in Bonilla-Silva’s study expressed abstract liberalism ideals in the belief that the government should not interfere with economic, social, or racial issues, but rather they should be motivated by individual desires. Many respondents in Bonilla-Silva’s study, however, acted under the cultural racism frame in their explanation of individual desires. It is possible that school of choice participants may act in a similar fashion. Parents who may be motivated by cultural racism might justify their actions through abstract liberal beliefs. In other words, school of choice grants parents the freedom to exit schools based on assumptions rooted in cultural racism and/or cultural classism. As a way to justify their decision to access Whiter, wealthier schools, parents may use abstract liberal beliefs in choice, individualism, and even equality to defend their actions as “moral.” However, the flaw in this view of equality is “how Whites apply the notion of individualism to our present racial conundrum” which still reflects a domination-subordination relationship (Bonilla Silva 2006:35). School of choice participants may, like Bonilla-Silva’s participants, use these frameworks to reproduce the dominate/subordinate relationship and inequality present in American public schools.

PARENTS’ USE OF SCHOOL CHOICE

One of the main assumptions of market theory in regards to school of choice is that parents will make rational decisions regarding where to send their children to school. Whether or not parents would rationalize this decision separate from cultural biases against race and class is questionable. Recall that in the past many White parents went to extreme lengths to prevent the integration of public schools. Therefore, it is unknown whether or not this blatant opposition to integrated classrooms has totally disappeared in only a few decades.

Academic quality is often the number one reason parents report using school choice. Parents report using school of choice to move their children into schools with higher test scores, smaller class sizes, and high graduation rates (Armor and Peiser 1998; Goldring 1997; Witte 2000). Studies on parental motives, however, often examine what parents say motivates them, rather than their actual behavior (Teske and Schneider 2001). Some studies that have looked at behavior have found distinct racial patterns even when controlling for test scores and academic quality. For example, in a study of magnet school requests, while controlling for test scores, White families requested transfers to schools with a greater White student majority. In addition, minority families requested transfers to schools that had a higher percentage minority enrollment (Henig 1990). Similarly, Tedin and Weiher (2004) conducted an experimental study which asked parents how interested they were in a hypothetical charter school. Parents were given schools that had different racial compositions and test scores. They found that parents were influenced by both test scores and racial composition: Parents’ interest in schools dropped with lower test scores and with less of the student body matching their child’s race or ethnicity. They concluded that all races in their study were motivated by higher test scores; however, the “right” amount of diversity also played a significant role.

⁶For example, many respondents gave explanations such as “poor people may have different priorities” (Bonilla-Silva 2006:41).

Factors contributing to self-segregating patterns may be different among different racial groups. For example, while minority families often report wanting to avoid racial harassment or being the only minority, Whites may be motivated by the perception of “better” and “safer,” which is often associated with “Whiter” (Johnson 2006).

In Bonilla-Silva’s frames of abstract liberalism and cultural racism, even those who believe in notions of equality may act contrary to these notions based on a firm belief in individualism and/or cultural bias. This means parents may disagree with segregation and even be genuinely concerned with the condition of poor and minority students segregated in public schools, but still contribute to it by asserting their individual right to choose the “best quality” school. Negative stereotypes associated with cultural racism could influence how parents define and assess “quality.” For example, parents may associate a school with a high minority population with negative characteristics, such as violence, delinquency, teenage pregnancy, poor academic quality, and drop-out rates, even if these associations are unfounded. This means Whiter and richer translates into a proxy for safer, better quality, and more desirable schools (Johnson 2006).

The notion that parents’ decision to use school of choice may be to some extent influenced by cultural racism is supported by studies that have found that parents often make decisions without researching or visiting their assigned schools first. Johnson (2006) concluded in her extensive study of parent’s attitudes about school quality that even though parents claim specific reasons related to school quality such as test scores, teacher-student ratio, and innovation, rarely were those claims investigated. Prins (2007) reported similar findings in her case study on Hispanic school segregation. She found that the majority of White parents transferring out of non-White districts did so without ever enrolling their children in those districts. Instead, parents relied on outside secondary information, such as reputation and rumors about perceived quality and racial composition. Without investigating schools themselves, parents were more

prone to judge a school based on hearsay or personal biases.

RACE, CLASS, AND STATUS AND THE REPRODUCTION OF SOCIAL STRATIFICATION

Some theorists suggest that parents may determine what constitutes “quality” education based on the perceived status of the school, and students may distance themselves from groups they perceive to be of lower status in order to maintain their own status (Wells and Crain 1992). Status combines resources and social capital necessary to maintain a dominant position in society and is affirmed as others acknowledge it. As parents use their resources to access better schools through school of choice policies, they are insuring that their children will develop the cultural and material capital necessary to remain in a position of privilege. Therefore, “individuals family’s ‘choices’ serve to perpetuate existing inequalities by passing along advantage (or disadvantage, as the case may be), to the next generation and thus contribute to the reproduction of social stratification” (Johnson & Shapiro 2000:174).

The reproduction of social stratification and social class, therefore, is much more complex than the passing along of wealth, income, and other material markers. As mentioned above, social class is also about social capital and cultural indicators. Social class is “about the sharing of identities and practices, the ways in which resources are mobilized across generations, and the norms and values that shape behavior” (Johnson 2006:5). Education is crucial to the reproduction of social class because it serves as a way to access both material and cultural capital. Access to homogenous middle/upper class, White schools can insure the transmission of middle class values and norms that maintain the common notions of status, as well as the material rewards and social connections associated with that status. Once out of school, these advantages will translate into further benefits and advantages as former students interact with other social institutions. Based on notions of cultural racism—the common belief that minority and poor families hold different values—

middle- and upper-class families often view high concentrations of minorities and poor families in school districts as a threat to the status of their children and therefore a threat to the transmission of their middle- or upper-class position.

Moreover, as other members of the middle-/upper-class affirm this notion of status, families are able to transmit and maintain status and their position of privilege by avoiding poor and non-White schools (Blumer 1958; Bobo 1999; Bonilla-Silva 1996; Fairlie and Resch 2002; Levin 1999; Morgan and England 1984; Saporito and Lareau 1999). In other words, as individuals avoid schools out of race- or class-based motives, they are recognized and rewarded by others, specifically those in authority (employers or college admission boards). Because of the status associated with their educational institution, this behavior is affirmed, reproduced, and likely to continue.

Sikkink and Emerson (2008) delve further into how parents relate status to “quality” and conclude that “for White Americans, the higher the percentage African American [students], the lower the status of that school (and likely the greater the perceived competition for valued resources, such as types of classes and extracurricular activities offered)” (p. 271). For parents concerned with maintaining a level of status for their children, a high-quality school that will cultivate a social network with people of equal status is viewed as essential to increasing their life chances. Often middle- and upper-class Whites view poor and minority students as a sort of “pollution” to this status (Sikkink & Emerson 2008).

School of choice can act to maintain the process of stratification reproduction by allowing Whites and middle-/upper-class families even more viable options to access “quality” homogenous schools. On the other hand, school of choice may also have the potential outcome of reducing the effects of stratification reproduction by allowing all families equal access to high-status education institutions, and thus increasing integration and challenging the system of placing status on schools based on their race and class composition. This would depend mostly on who is using school of choice and

if they have desirable choices. Studies have been inconclusive as to which groups are more likely to use school of choice, but if it is indeed poor and minority students, this could in effect challenge the overarching system of education inequality.

RESEARCH QUESTIONS

To further analyze whether or not a relationship exists between school of choice and integration, it is important to identify what, if any, role contemporary school of choice policies play in the documented resegregation. To address a possible relationship, this case study analyzes the effects of interdistrict choice on levels of diversity within nineteen school districts located in or near a mid-sized city in Michigan. The focus in this study is on interdistrict transfers for two main reasons. First, there is much more literature that analyzes school segregation in other types of choice schools, such as private schools and charter schools, and less literature in general that addresses the effects of interdistrict transfers on integration in public schools. Second, recent expansion of such policies, specifically in the area being studied, makes this a timely topic for study.

There are two general research questions this study seeks to address. First, *what, if any, shifts in demographics occur between schools as a result of interdistrict transfers?* Through this question, I seek to analyze whether patterns exist within interdistrict transfers that relate to race or class segregation. Specifically, due to the magnitude of students transferring out of urban districts, this study will focus on where students from between the race or class position of the student and the racial or class composition of each school district.

Second, *what, if any, are the overall implications interdistrict transfers may have on the documented rapid resegregation occurring in American schools?* To address this question I will use the infor-

mation provided from the first analysis as well as past literature and historical knowledge to explain how or why issues of resegregation and choice may or may not be related. This question will also discuss what possible implications choice may be having on the districts being most affected.⁷

SCHOOL OF CHOICE IN MICHIGAN

School of choice in Michigan is unique because of the state's funding system. The school finance system (Proposal A) was approved by voters in 1994 (Plank & Sykes 1999). This system shifts the principal funding away from property taxes and toward state sales tax. According to Plank and Sykes (1999), Proposal A resulted in three major changes in Michigan's education system. First, it "shifted the primary responsibility for funding from local school districts to the state." Second, "state funds [were] distributed to school districts according to a funding formula which is essentially driven by the number of pupils enrolled in district schools." Third, "the effective 'ownership' of educational revenues has been shifted from school districts to individual students" (p. 391). Therefore, individual students that transfer districts through school of choice in Michigan, under Proposal A, are portable funding sources. The more students a district loses, the more funding is lost; conversely, the more students a district accepts, the more funding the district will receive. This means that as students transfer out of districts through school of choice, the school is not only losing students but also the money tied to them.

Michigan allows three types of public school choice: charter schools, interdistrict and intradistrict choice (open enrollment), and magnet schools.⁸ Michigan first enacted an interdistrict choice policy in 1996 in Public Act 180. Section 105 of the State School Aid Act allows students to transfer to schools in a district

located within their Intermediate School District (ISD). Section 105c extends this choice to schools outside of the student's home ISD. An ISD is a group of districts located near one another that operate separately but are subject to certain rules and regulations of a central administrative body. Each separate ISD has the right to opt in or out of both or either of these sections (Michigan Department of Education [MDE] 2008).

According to the MDE (2008), the districts participating in either of the interdistrict transfer policies have the following regulations:

- 1) Siblings of present choice participants get first preference;
- 2) A lottery must be used in case of more applicants than openings;
- 3) The number of openings must be published;
- 4) A student can be denied choice based on past suspensions or expulsions;
- 5) The district does not provide transportation.

Intermediate School District (ISD)

The Intermediate School District being studied has participated in school of choice since 1996. The ISD participates only in Section 105, which allows transfers within the ISD, but does not allow students from other ISDs to transfer into a district within the ISD. There are nineteen school districts within the Intermediate School District being studied. All of the districts participate in interdistrict transfers, yet have differing amounts of seats available each school year. The number of openings for school of choice in this ISD ranges from zero in one suburban district to 1,000 in the urban district. See Table 1.4 for a complete list of school of choice openings by district and grade level.

There is roughly a 12-week window in which applicants must apply for their school of choice. If there are more open-

⁷In a subsequent research project, I will address a third research question: Are parent's decisions to participate in interdistrict choice influenced on any level by the actual and/or perceived level of diversity at a given school? Through this additional research question I will seek to add crucial pieces of information regarding parental motives. Since parents' decisions play a significant role in any demographic shifts that may be identified, this focus will be to attempt to deconstruct any relationship between parents' use of interdistrict choice and race and class.

⁸Vouchers were introduced to the state in 2002, but it was turned down by voters by a margin of two to one.

ings than applicants, all eligible applicants are accepted into the program.⁹ If the amount of eligible applicants exceeds the amount of seats available, a lottery system is employed. Applications not chosen in the lottery can be placed on a waiting list or can be referred to another district if they listed an alternative choice. If both districts are full, the student can then choose an area charter school or private school or remain in their residential district.

There are approximately 98,000 students enrolled in the nineteen districts located within the ISD. The total enrollment for each district ranges from approximately 1,450 in the smallest district to approximately 19,000 in the large urban district. See Table 1.1 for approximate enrollment size for all districts.

DATA AND METHODS

To analyze any relationship between racial and class segregation and interdistrict transfers in this case study, secondary quantitative analysis of the students using interdistrict transfers¹⁰ is employed to identify who is using school of choice and what effect that is having on individual districts.¹¹

In this portion of analysis, I use secondary records of student transfers in and out of the 19 districts that are located in or near the midsized city being studied.¹² There are three different sets of data being analyzed in this study; the first was provided by the Intermediate School

District being analyzed, the second was provided by the urban district being studied, and the third is information accessed from the Michigan Center for Educational Performance and Information Web site (CEPI).¹³ The information provided by the ISD shows the number of students leaving each district and where each student is transferring to through interdistrict choice.¹⁴ The sample size for this data, or the number of students using interdistrict school of choice in this ISD, is 8,100.¹⁵

The second set of data is provided by the urban district being studied and gives descriptive information for all of the students transferring out of that district through school of choice. This information provides descriptive information which measures grade, gender, race/ethnicity, free/reduced lunch status, and disability status.¹⁶ The sample size for this data, the number of students transferring out of the urban district, is approximately 3,900.

The final data from the Center for Educational Performance and Information provided demographic information including the racial breakdown and number of students qualifying for free or reduced lunch for each individual district and the ISD as a whole.¹⁷

To address the first research question, I created a figure to demonstrate the large movements in between districts in the ISD as a result of school of choice. I used the data from the ISD to assess which districts were being the most ef-

fected by school of choice transfers and which districts were gaining and losing students. I used the data provided from the urban district, along with information from CEPI, to study racial composition and free or reduced lunch percent of each district and the students transferring out of the urban district to other districts within the ISD.

RESULTS

Interdistrict Transfers in Intermediate School District

Each year, the number of students participating in interdistrict transfers continues to expand in this ISD. In 1999 there were roughly 2,000 students using school of choice to attend another traditional public school in this ISD. By 2007, this number increased to roughly 8,000. Out of the nineteen school districts that comprise this ISD, the urban district I, located in the center of the city, is losing the greatest number of students. District I experienced a loss of roughly 3,900 students due to interdistrict school of choice alone in 2007.¹⁸ Figure 1.1 shows the general patterns of student flows in between the nineteen districts during the 2007-2008 school year.

⁹ Students may be ineligible if they have ever been convicted of a felony, expelled, or suspended within those two years prior to applying.

¹⁰ Although interdistrict choice can include charter schools, this study is focusing only on the transfers between traditional public school districts. Charter schools are not used in this data.

¹¹ A later study will combine qualitative interviews with the parents of school of choice participants and the quantitative methods used in this initial investigation. This dual approach is intended to provide breadth to the overall project. The second part of this project will shed light on the parental motives behind choice, which is a crucial aspect to understanding the overall patterns identified by quantitative analysis.

¹² To protect the identity of the ISD being studied, the names of all of the districts have been abbreviated to one letter, A through S.

¹³ <http://www.mi.gov/cepi/>

¹⁴ I was unable to obtain descriptive information regarding choice students for the entire ISD, either because the ISD fails to collect this information or they do not want those statistics to be publicized.

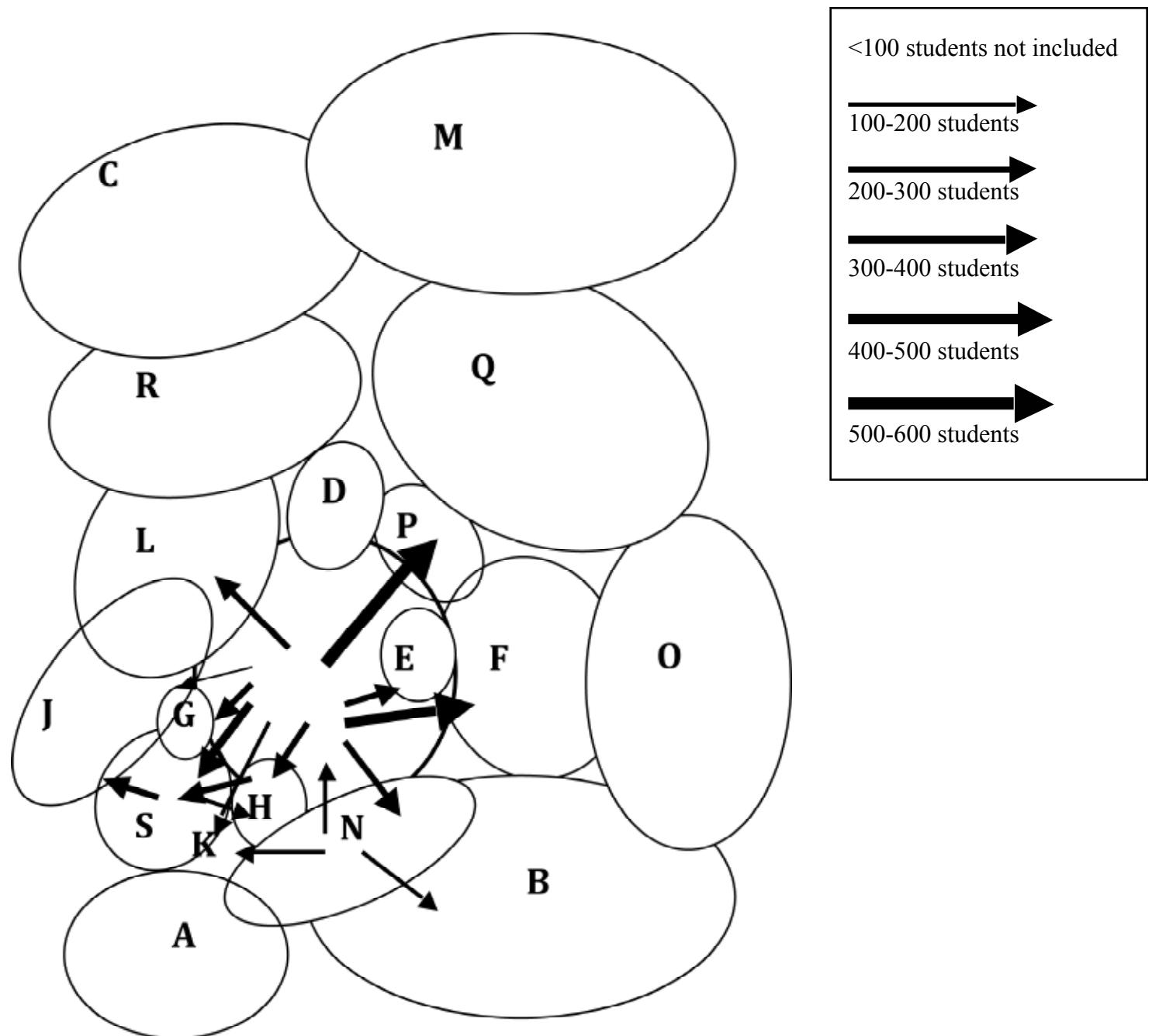
¹⁵ All numbers are approximate in order to protect the identity of the districts.

¹⁶ The original sample size for this data was 7,100 and included transfers into charter schools through school of choice. However, for the purpose of this study on interdistrict choice, I have only included the number of students transferring out of the urban district into other traditional public schools.

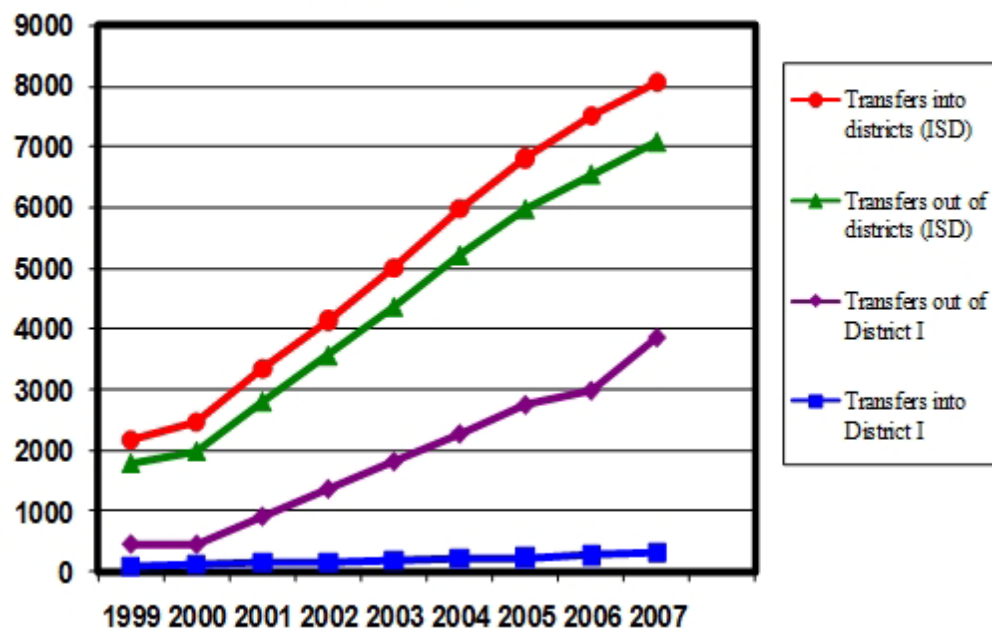
¹⁷ Free or reduced lunch status was used as a general measurement of the general socioeconomic composition of each district.

¹⁸ This does not include the students who use school choice to attend charter or magnet schools.

Figure 1.1 Locations of Districts and Patterns in Interdistrict Transfers



Graph 1.1 Total Transfers to and from ISD and Urban District (I), 1999-2007

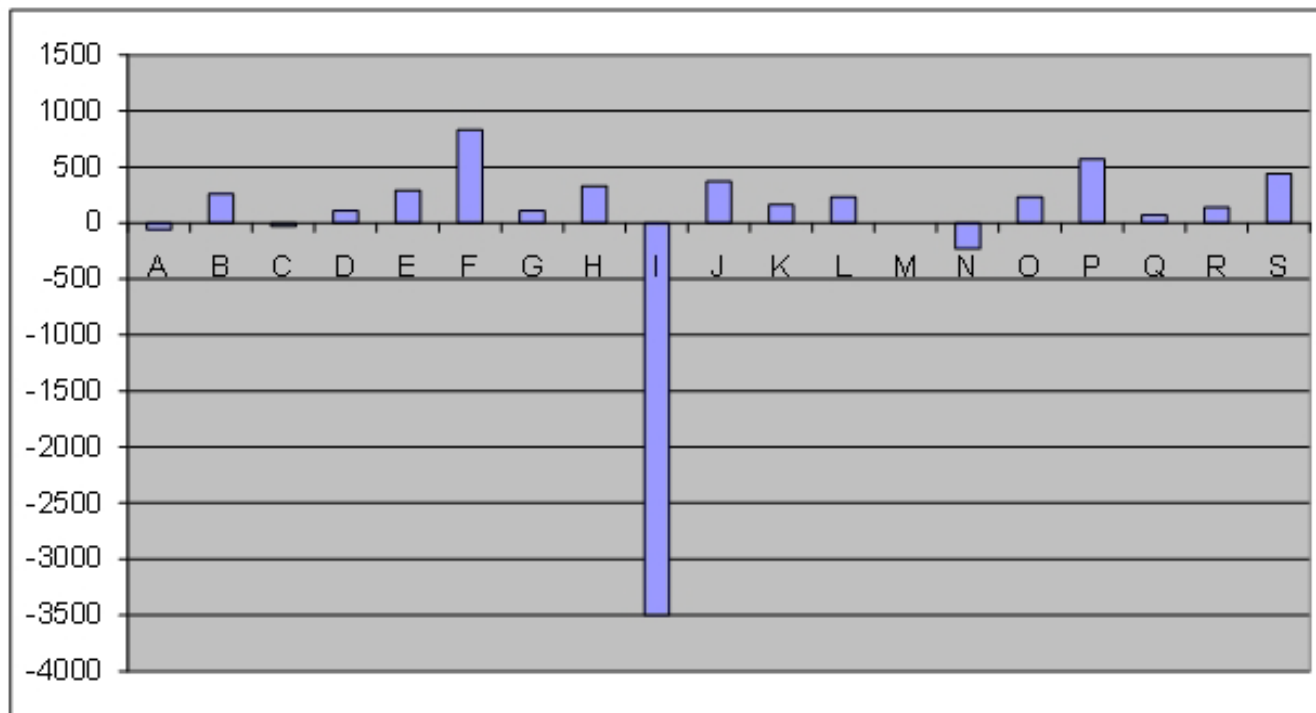


District I had the greatest percent increase (593%) in the number of students transferring out of the district between 1999 and 2007 and the lowest percent increase (3%) of students transferring into the district during the same time period. There was a 270 percent increase in students using interdistrict school of choice to transfer to a different school within one of the nineteen districts between 1999 and 2007.

On average, districts within the ISD are either gaining students through interdistrict transfers or are losing relatively few students. The graph below illustrates the variation in net change or loss for each school.¹⁹ There are only four districts—I, N, C, and A—that experienced a net loss of students in the 2007-2008 school year. District A and N are both located to the south of the urban district (District I), and District C is located in the rural area to the north of the urban district. Districts P and F both border District I to the north and are experiencing the greatest net gains. Generally, the districts that are located furthest away from the urban district are the districts that show very little net loss or gain, such as District M, which is experiencing zero net change.

¹⁹ The net gain or loss was calculated by subtracting the approximate number of students leaving the district through interdistrict choice from the approximate number of students coming into the district through interdistrict choice. This calculation is only for students transferring to and from one of the nineteen public schools in the Intermediate School District being studied.

Graph 1.2 District Net Gain/Loss of Students through Interdistrict Choice in 2007-2008



The nineteen districts vary greatly in enrollment size, racial composition, free/reduced lunch enrollment and the number of students transferring in and out through school of choice each year.²⁰ An important contributing factor to how many students a district has transferring in each year is the number of new students each district allows, which ranges from zero to 1,000 in the 2008-2009 school year.²¹

District A, for example, is experiencing a net loss of students through interdistrict transfers, but this district had zero openings for school of choice students so loss could not be offset. Factors such as the race and class composition and the location of each district could also influence the number of interdistrict school of choice transfers.

Thirteen districts out of nineteen have a student population that is 80 percent White or greater, and eight of these districts have student populations that are 90 percent White or greater. The remaining six other districts have minority populations that range from 45 percent to 79 percent. This is particularly interesting because the average racial composition for the entire ISD is 67 percent White,

15 percent African American, 12 percent Hispanic, 3 percent Asian American, 3 percent multiracial, and less than 1 percent Native American. Despite a 67 percent average White enrollment for the entire ISD, none of the districts have a White student enrollment between 55 percent and 80 percent. (See Table 1.2 in Appendix for racial demographics for all districts.) Four of the districts with high minority populations, Districts H, N, G, and S, directly border the urban district to the south.

There are ten districts that border the urban district. Out of all of the districts that border District I, the only district that does not have a net gain is District N. This district has the second highest net loss and also the second highest percentage of African American students (31%), behind only the urban district (District I).

When accounting for enrollment size, the districts that are losing the greatest percentage of their total enrollment through interdistrict transfers are the five other districts with 45 percent minority enrollment or greater: districts G, H, I, K, and S.²² Interestingly, districts G and H are also gaining the greatest percentage

of their total student enrollment through interdistrict transfers. This means that these schools are experiencing high “traffic,” meaning there are large numbers of students leaving and entering the district each year. This trend may be because of the location of each of these districts. Both schools are located between the urban area and large suburban areas. Districts P, K, and S have the third-, fourth-, and fifth-greatest percent gain of their total student enrollment, respectively. (See Table 1.3 in Appendix for percentage of students transferring in and out in relation to total enrollment.)

The two districts that are gaining the greatest number of students overall as well as the greatest number of students from District I are P and F. Both have high percentages of White student enrollment (91% and 88% respectively) and a high percentage of students that are not eligible for free or reduced lunch (72% and 93% respectively). Roughly 1,100 students are transferring to these two districts from District I; this is over one-fourth of the total students transferring out of the urban district. Eighty percent of the students transferring to these two districts from the District I are

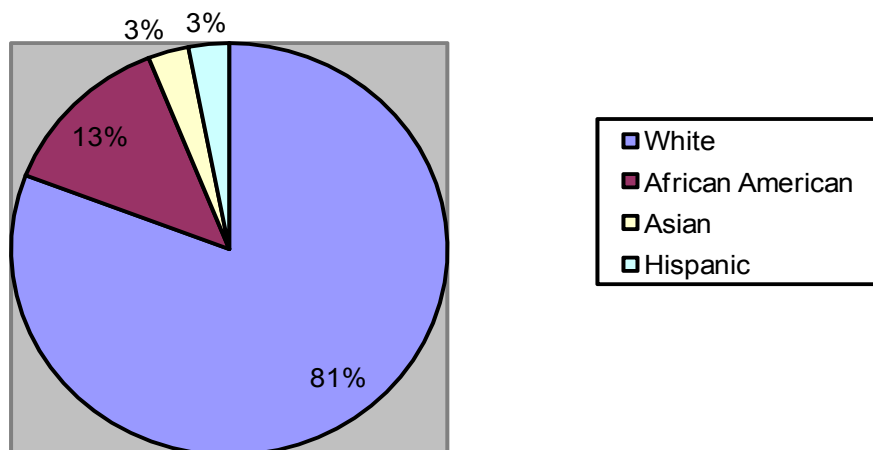
²⁰ To see a detailed table of these factors see Tables 1.1, 1.2 and 1.3.

²¹ See table 1.4.

²² Enrollment was accounted for by dividing the number of students transferring in or out of the district by that district’s approximate enrollment size. These numbers are approximate and descriptive.

White, 13 percent are African American, 3 percent are Hispanic, and 3 percent are Asian American. Seventy percent of the transfers to P and F from District I are not eligible for free or reduced lunch.

Graph 1.3 Racial Demographics of Students Transferring from District I to Districts F and P (2007-2008)



Total student enrollment in District I has the highest percentage of minority students, along with the highest percentage of students that are eligible for free or reduced lunch, with only 17 percent of the entire enrollment not eligible for free or reduced lunch.²³ The five other districts that have the highest percentage of minority students—G, H, K, N, and S—are also the districts with the highest percentage of students that are eligible for free or reduced lunch. In general, these districts are also the ones that are losing the greatest percentage of their total enrollment, and in some cases gaining the greatest percentage of their total enrollment as well. The six districts that are characterized as having high numbers of minority and free/reduced lunch students seem to be among the districts most affected by interdistrict school of choice.²⁴

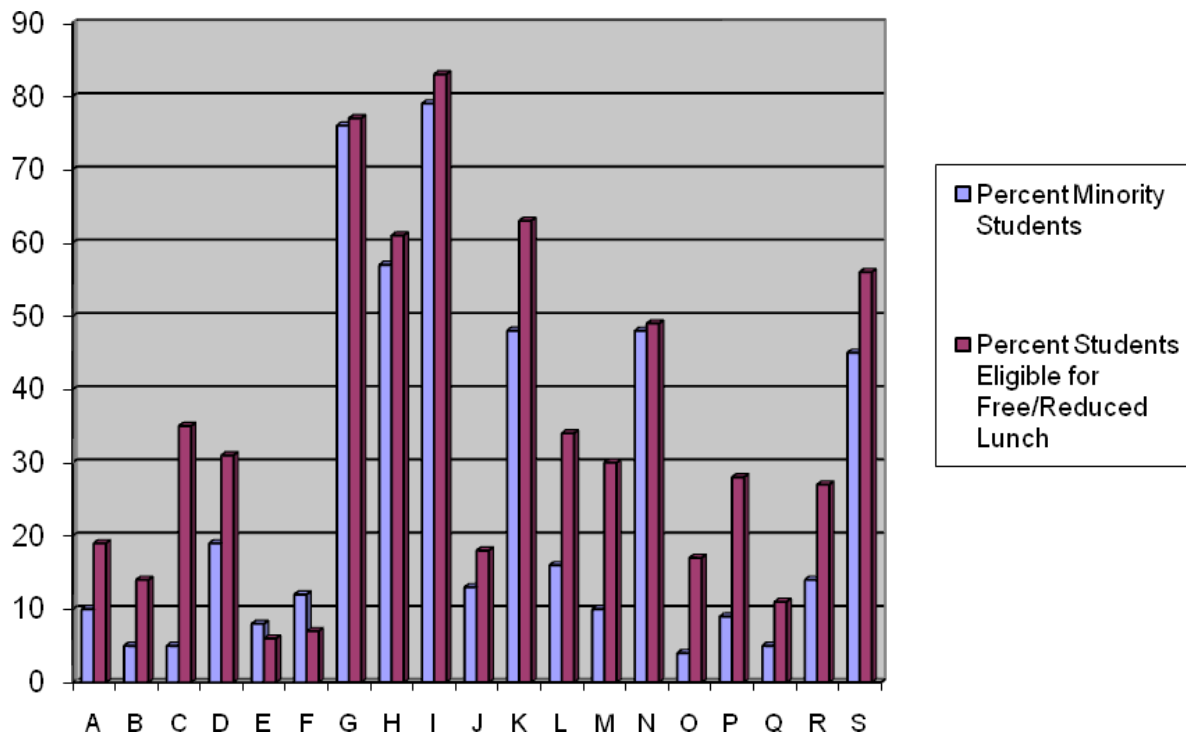
Although in most districts, the percentage of the student enrollment eligible for free or reduced lunch is roughly comparable to the percentage of minority

students, District C offers an interesting anomaly. District C is one of the four districts experiencing a net loss of students as a result of interdistrict transfers. The district is 95 percent White, but 35 percent of the students are eligible for free or reduced lunch. Graph 1.4 illustrates the comparison of each district in terms of minority student enrollment and percent of total enrollment eligible for free or reduced lunch. Districts G, H, I, K, N, and S stand out as the six districts with high percentages of both; District C stands out, however, because of the low percentage of minority students and relatively high percent of students eligible for free/reduced lunch. Figure 1.1 illustrates the anomaly in student flows as well. While most districts experience a flow of students outward, District C is losing students toward the other direction.

²³ To qualify for free lunch a family's income must be 130% of the federal poverty line or less; to qualify for reduced lunch a family's income must fall between 130% and 185% of the poverty line. For a more detailed description of the Income Eligibility Guidelines see citation (Income Eligibility Guidelines) on references page.

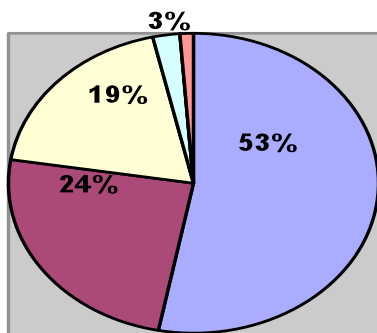
²⁴ Refer back to Chart 1.1 for student flow trends

Graph 1.4 Comparison of District Minority Enrollment and Free/Reduced Lunch Eligibility

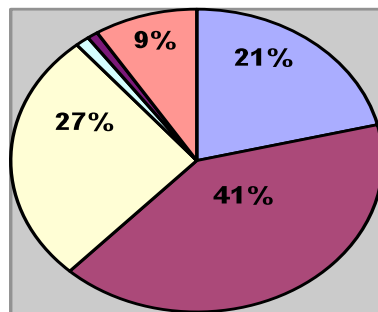


Graph 1.5 Racial Demographics of Students Transferring Out and Remaining in District I (2007-2008)²⁵

Racial Demographics of Student Transfers Out of District I (N=3900)



Racial Demographics of Students Remaining in District I after Interdistrict Transfers (N=19,000)



²⁵ This is graph illustrates a descriptive difference.

Interdistrict Transfers in Urban District (I)

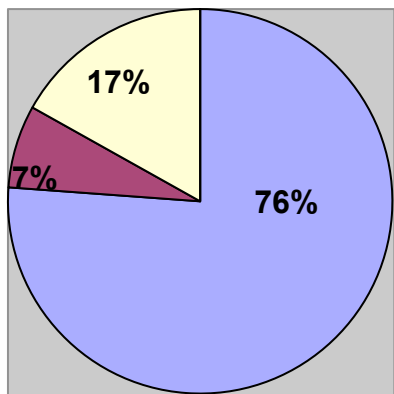
Analyzing separate data provided by the urban district which more closely identifies the school of choice students transferring out of the district provides a clearer picture of how race and class relate to school of choice. Out of the 3,900 students transferring out of the urban district through interdistrict choice, 52.7 percent are White, 24.1 percent are African American, and 18.7 percent are Hispanic. This is compared to the overall racial composition of the district (Table 1.2), which is 21 percent White, 41 percent African American, and 27 percent Hispanic. It is evident that the percentage of students leaving the district is not an accurate representation of the students remaining in the district. Seventy-nine percent of White students and 51 percent of Asian students who transferred out of the urban district transferred to a district that is 85 percent White or greater. Similarly, 64 percent of Hispanic students leaving District I transferred to either District G or H, which have Hispanic populations of 58 percent and 48 percent, respectively. Districts G and H were also the two districts experiencing the greatest percentage of students transferring both in and out, in relation to the size of their total enrollment. Twenty-seven percent of African Americans transferred to District H, which has the third-highest percentage of African American students of any district (24%), and 17 percent transferred to district N, which has the second-highest percentage of African American students (31%). Interestingly, none of the students who transferred to District N in 2007 were eligible for free or reduced lunch. Out of the six districts that have high minority student populations, District N has the lowest percentage of students eligible for free or reduced lunch (51%).

In 2007-08, 70 percent of all students transferring out of District I were not eligible for free/reduced lunch, 23 percent were eligible for free lunch, and 7 percent were eligible for reduced lunch. This is astounding considering that in the

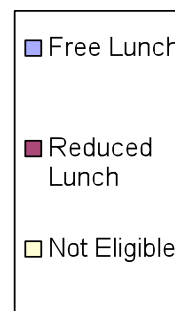
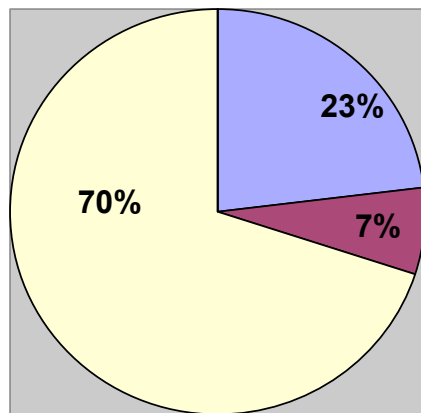
same year only 17 percent of all students in District I were not eligible for free/reduced lunch, 76 percent were eligible for free lunch, and 7 percent were eligible for reduced lunch.

**Graph 1.6 Free/Reduced Lunch
Demographics for Students Remaining
in the Urban District (I) and Students
Transferring out of the Urban District (I)
in 2007-2008²⁶**

Free/Reduced Lunch
Demographics of Students
Remaining in District I after
Interdistrict Transfers
(N=3900)



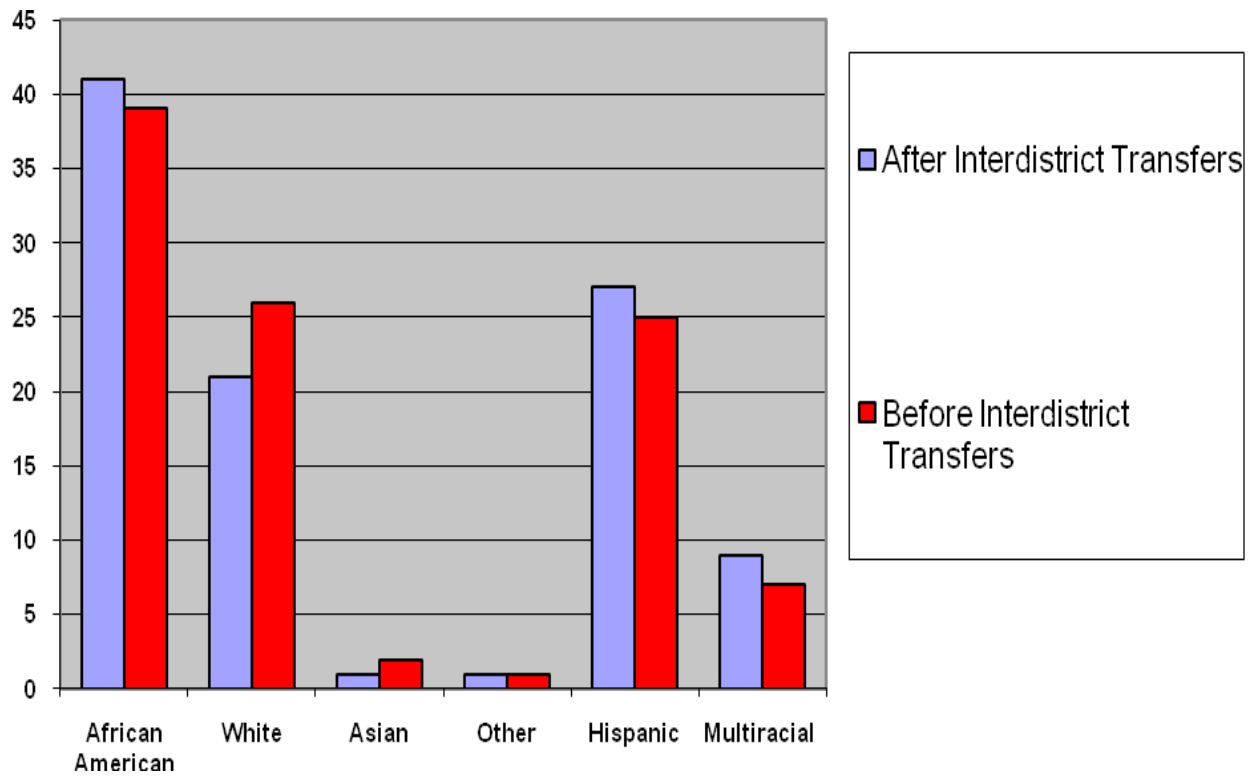
Free/Reduced Lunch
Demographics of Student
Transfers out of District I
(N=19,000)



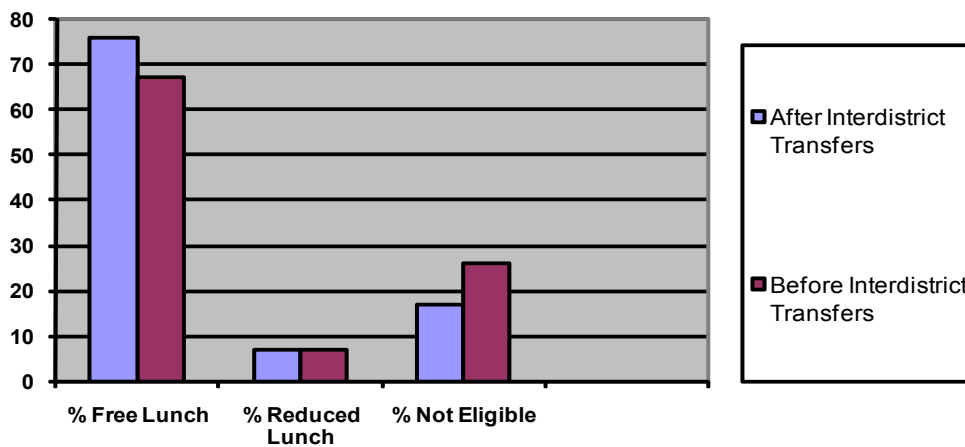
If the students who transferred out of the urban district through interdistrict choice had remained, the district would be less segregated by race and class. Without the interdistrict transfers, the racial breakdown would be 39 percent African American, 26 percent White, 2 percent Asian, 25 percent Hispanic, and 7 percent multiracial. After the interdistrict transfer students left the district for another traditional public school, the racial composition became 41 percent African American, 21 percent White, 1 percent Asian, 27 percent Hispanic, and 9 percent multiracial. In addition, if the students leaving District I had remained in the district, the percentage of students who are not eligible for free lunch would be 67 percent instead of 76 percent, and the percentage of students not eligible for either would be 26 percent instead of 17 percent.

²⁶ This is graph illustrates a descriptive difference.

Graph 1.7 Urban District Demographics by Race Before and After Interdistrict Transfers in 2007-08



Graph 1.8 Free/Reduced Lunch Statistics for the Urban District (I) Before and After Interdistrict Transfers in 2007-2008



Based on the net gain and loss of students in each district, it seems the majority of districts in this ISD are not being strongly affected by interdistrict school of choice. The Urban District I, however, is losing a substantial number of students to interdistrict transfers. The majority of students transferring out of the district are White and middle/upper class (as indicated by free/reduced lunch statistics), while the approximate 19,000 students remaining in the district are 79 percent non-White with 84 percent eligible for free/reduced lunch.

DISCUSSION

In this ISD, the districts are already largely segregated, with no district having a White student population in between 45 percent and 80 percent, despite an average White enrollment in the ISD of 67 percent. Most districts are experiencing a net gain of student transfers, with only four districts experiencing a net loss—A, C, I, and N. Districts A, C, and N are experiencing a small net loss in comparison to District I. District A is a majority White, middle-/upper-class suburban district that does not accept any school of choice transfers. District C is a rural district with a relatively high percentage of students who qualify for free/reduced lunch, and District N has the second-highest percentage of African American student enrollment in the ISD behind District I.

The two school systems that are gaining the greatest number of students are majority White, middle-class suburban districts that are bordering the urban district. The districts with the highest percentage of minority students and students who qualify for free/reduced lunch seem to be the most affected by interdistrict school of choice transfers. When accounting for enrollment size, the districts with high minority and/or free/reduced lunch enrollment are experiencing the heaviest “traffic”—meaning large percentages of their student enrollment are both leaving and entering their districts through interdistrict school of choice.

Interdistrict transfers out of the urban district in this case study seem to be experiencing two main trends: 1) a sub-

stantial decrease in the enrollment size of the district and 2) further segregation of the urban district by both race and class. There is a general flow of students outward from the urban district, causing a substantial drop in enrollment size. In the 2007-2008 school year, nearly 4,000 students were leaving the urban district through interdistrict choice alone.

The race and class of the students who are transferring out of the urban district is also highly important to our discussion. The proportion of White students transferring out of District I is much higher than the proportion of White students enrolled in the district. Similarly, the proportion of students transferring out of the urban district who are not qualified for free or reduced lunch (70%) is substantially higher than the proportion of students remaining in the district who are not eligible (17%) (see graphs 1.5 and 1.6.). This outflow of students who are majority White and majority middle-/upper class is increasing segregation by both race and class within the already struggling urban district. Increased segregation by race and class could have many potential outcomes that may be harmful to the district and students remaining in the district. Diverse schools offer better opportunities to all students, including higher academic achievement and the breakdown of intergenerational transmission of prejudices (Mickelson et al. 2008). Therefore, as the urban district becomes more segregated by race and class, there may be many problems associated with this demographic shift.

An obvious shortcoming with the interdistrict school of choice policy in this case study (as is the case with many school of choice policies) is the lack of transportation provided. Just like traditional school choice, this gives an inherent advantage to parents with resources. Since a parent becomes responsible for transporting their student back and forth, a certain degree of money, time, job flexibility, and a mode of transportation must be present. In addition, even if a child is close enough to walk to an adjacent district, this severely limits the choices actually available to them based on proximity. Because race and class are so closely intertwined, a policy that disadvantages those with fewer resources

is also likely to produce racial outcomes.

While the policy itself is inherently more plausible for families with resources, which often correlates to race, the decisions made by individual families also play a role in the patterns leading to resegregation. Although this case study cannot explain directly the parental motives behind their choices, other studies that have looked at parents' use of school choice (Saporito 2003; Johnson 2006; Tedin and Weiher 2004; Prins 2007; Mickelson et al. 2008) have found that families tend to make school of choice decisions that are motivated by race and/or class biases.

In addition, the historical tie between school of choice policies and integration and Bonilla-Silva's (2006) findings on contemporary racial attitudes suggest that race and class may still play a role in school of choice policies. Although parents may not directly say they are motivated by things such as cultural racism or classism, middle-/upper-class White parents in this case study are still fleeing the urban district in pursuit of wealthier, Whiter schools. The legacy of the historical relationship between choice and race may still be present, but on a more covert, complex level. As Plank and Sykes (1999) noted in another Michigan case study on school of choice: “‘Choice’ is a profoundly conservative reform strategy in its failure to address the larger issues of social and economic context within which parents in fact make choices” (p. 412).

Although many parents are looking for the best possible education for their children, how they define “best” is different for everyone and could be affected by beliefs rooted in cultural racism or classism. As Johnson (2006) found in her extensive study on parents' school decisions, parents may use Whiter and wealthier as proxies for “quality.” Because many parents make decisions without adequately investigating each school (Johnson 2006; Prins 2007), this proxy may become a primary motivator for parents.

Parents may also judge the quality of a school based on the expected status that institution will bestow. Because many White, middle-/upper-class families view districts with a large poor and minor-

ity student population as being of lower social status, this may also influence parents to make decisions based on race and class to ensure the transmission of status (Sikkink and Emerson 2008). In addition, parents may justify these decisions using an abstract liberal frame, which is prevalent in contemporary opinions on racial matters (Bonilla-Silva 2006). Despite patterns of segregation, in applying the abstract liberalism frame interdistrict school of choice can be viewed as an inherently good policy because it provides “equality,” “freedom,” and “choice.”

Therefore, it allows parents to leave districts with increasing levels of segregation, and still see their contribution to this trend as moral because others have an equal chance to utilize this “freedom of choice.”

However, simply granting parents “freedom” to choose does not provide them with viable choices (Plank and Sykes 1999). This form of public school of choice appears to be yet another option available to parents with resources to leave urban schools. Now, however, parents can access “quality” education through school choice without having to relocate or pay for costs of tuition. Thus, although to an extent interdistrict school of choice may be extending choice to middle-class families who may have found other types of choice somewhat difficult before, it is nevertheless excluding individuals that are really suffering from the effects of inequality and segregation.

Although proponents of interdistrict policies such as the one being analyzed in this case study believe equal opportunity will result from applying market theory to school choice, this case study suggests that interdistrict choice is yet another option available to majority middle-class, White families who historically have long had traditional types of choice available to them. In addition, because the state funds follow each child to their school of choice, the urban district is losing money with each student, forcing them to battle decreased funding and increased segregation by both race and class.

CONCLUSION

Despite the documented benefits of diverse educational settings, schools are undergoing rapid resegregation (Orfield 2001). In order to achieve equity and combat increased segregation in American schools, it is imperative for research in this area to continue. Although this case study is limited in scope it provides valuable findings regarding how interdistrict school of choice is affecting race and class segregation in the area being studied.

For choice policies to improve schools and offer more opportunities and parent satisfaction, policies must address the issue of parental preference and racial resegregation. According to a meta-analysis on school choice and segregation at the Education Policy Research Institute, to pursue diversity policies must redesign current choice policies to ensure diversity, provide transportation to choice students and enhance information to parents, increase and enforce accountability in choice schools, and redesign public/private sector relationships to ensure diversity (as cited in Mickelson et al. 2008).²⁷

Future research should further analyze what factors motivate parents to use school of choice in order to address this issue adequately in future policies. Because segregation is a result of many isolated individual decisions, in order to fully delve into the relationship between school choice and segregation researchers should continue to uncover what motivates parents to use school of choice. In addition, research should more generally continue to study how race and class interact with different types of choice policies, so that policy makers can make the most informed recommendations to ensure equality in American schools.

²⁷ For a further explanation of these policy recommendations see the full report at <http://epsl.asu.edu/epru/documents/EPsl-0803-260-EPRU.pdf>

Table 1.1 District Approximate Enrollment and Amount of Interdistrict Transfers²⁸

District	District Total Enrollment	Number of Students Transferring Into District in 2007	Number of Students Transferring Out of District in 2007	Net Growth or Loss of Students in 2007
A	3100	60	120	-60
B	3800	350	90	260
C	3400	150	180	-30
D	2,500	350	240	110
E	3,000	310	20	290
F	10,000	920	90	830
G	1,600	310	200	110
H	2,400	700	370	330
I	19,000	360	3,860	-3,500
J	6,000	530	160	370
K	2200	400	240	160
L	3,600	410	180	230
M	1400	120	120	0
N	9,100	430	660	-230
O	3800	350	120	230
P	3,400	680	110	570
Q	7800	260	190	70
R	2900	280	140	140
S	5,600	1000	560	440

²⁸ Enrollment numbers are rounded to the nearest hundredth and transfer numbers are rounded to the nearest tenth.

Table 1.2 District Demographics by Race (2007-2008)

District	%African American	% Hispanic	% White	% Multiracial	% Asian American	% American Indian/Native Hawaiian or Alaskan
A	2%	4%	90%	NA	3%	>1%
B	>1%	1%	95%	>1%	2%	>1%
C	1%	3%	95%	>1%	>1%	>1%
D	9%	8%	81%	>1%	1%	>1%
E	4%	1%	92%	>1%	2%	>1%
F	4%	2%	88%	>1%	6%	>1%
G	16%	58%	24%	NA	1%	1%
H	24%	48%	43%	NA	4%	>1%
I	41%	27%	21%	9%	1%	1%
J	3%	5%	87%	2%	3%	>1%
K	16%	23%	52%	1%	6%	2%
L	3%	9%	84%	1%	2%	1%
M	>1%	9%	90%	NA	>1%	>1%
N	31%	8%	52%	2%	7%	>1%
O	1%	>1%	96%	NA	>1%	2%
P	5%	3%	91%	>1%	>1%	>1%
Q	>1%	1%	95%	2%	1%	>1%
R	1%	12%	86%	>1%	>1%	>1%
S	18%	23%	55%	NA	4%	>1%
Total Percentage for All Students in ISD	15%	12%	67%	3%	3%	1%

Table 1.3 Percent of Total Enrollment that District is Gaining/Losing through Interdistrict School of Choice²⁹

District	Percent of Total Enrollment Leaving District through Interdistrict Transfers	Percent of Total Enrollment Who are Interdistrict Transfer Students
A	3.74%	1.82%
B	2.39%	9.20%
C	5.21%	4.28%
D	9.60%	13.92%
E	0.55%	10.30%
F	0.92%	9.15%
G	12.97%	20.19%
H	15.45%	29.19%
I	15.21%	1.73%
J	2.58%	8.77%
K	10.89%	18.23%
L	5.11%	11.49%
M	8.37%	8.44%
N	7.20%	4.64%
O	3.21%	9.02%
P	3.30%	20.30%
Q	2.44%	3.20%
R	4.84%	10%
S	9.91%	17.67%

²⁹ These percents were calculated by dividing the number of students transferring in or out of the district by the total enrollment size.

Table 1.4 District Demographics by Free/Reduced Lunch Status (2007-08)

District	% Free Lunch	% Reduced Lunch	% Not Eligible
A	12%	7%	81%
B	10%	4%	86%
C	25%	10%	65%
D	25%	6%	69%
E	5%	1%	94%
F	5%	2%	93%
G	67%	10%	23%
H	51%	10%	39%
I	76%	7%	17%
J	13%	5%	82%
K	50%	13%	37%
L	26%	8%	66%
M	22%	8%	70%
N	35%	14%	51%
O	11%	6%	83%
P	21%	7%	72%
Q	8%	3%	89%
R	20%	7%	73%
S	45%	11%	44%

Table 1.5 District School of Choice Openings by Grade for 2008-2009

District	Kinder- garten	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th	District Total
A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B	25 openings K-*								30 openings 9-12					55
C	25	15	15	15	15	15	15	15	15	15	15	15	15	205
D	25	3	3	3	3	3	3	3	3	33	3	3	3	91
E	0	0	5	2	6	6	0	0	0	0	0	0	0	19
F	42 openings K-4					0	0	0	0	0	0	0	0	42
G	8	8	8	2	3	0	5	5	5	5	5	5	0	59
H	247 openings K-12													247
I	50	50	50	50	50	50	100	100	100	100	100	100	100	1000
J	50	0	0	0	0	0	0	0	0	30	0	0	0	80
K	238 openings K-12													238
L	30 openings K-4					16 openings 5-8					0	0	0	46
M	50	14	10	11	8	6	13	13	9	20	15	10	10	189
N	50 openings K-9										0	0	0	50
O	116 openings K-12													116
P	64 openings K-6							40 openings 7-8		40 openings 9-12				144
Q	45	15	15	20	20	10	20	20	25	35	15	15	10	265
R	100 openings K-12													100
S	500 openings K-12													500

References

- Armor, David and Brett Peiser. 1998. "Interdistrict Choice in Massachusetts." Pp. 157-86 in *Learning from School Choice*, edited by P. Peterson and B. Hassel. Washington, DC: Brookings Institution.
- Blumer, Herbert. 1958. "Race Prejudice as a Sense of Group Position." *Pacific Sociological Review* 1:1-37.
- Bobo, Lawrence. 1999. "Prejudice as Group Position: Microfoundations of a Sociological Approach to Race and Race Relations." *Journal of Social Issues* 55:445-72.
- Bonilla-Silva, Eduardo. 1996. "Rethinking Racism: Toward a Structural Interpretation." *American Sociological Review* 62:465-80.
- , 2006. *Racism Without Racists: Color-Blind Racism and the Persistence of Racial Inequality in the United States*. New York: Rowman & Littlefield.
- Center for Educational Performance and Information. 2008. Michigan Department of Education. Retrieved June 1, 2008 (<http://www.michigan.gov/cepi/0,1607,7-113-21423---,00.html>).
- Chubb, John and Terry Moe. 1990. *Politics, Markets, and America's Schools*. Washington, DC: Brookings Institution.
- Chubb, John and Terry Moe. 1996. "Politics, Markets and Equality in Schools." Pp. 55-82 in *Autonomy and Choice in Context*, edited by R. Shapira and P. Cookson. New York: Elsevier Science, Inc.
- Clotfelter, Charles T. 2001. "Are Whites Still Fleeing? Racial Patterns and Enrollment Shifts in Urban Public Schools, 1987-1996." *Journal of Policy Analysis and Management* 20:199-221.
- Coleman, James S. 1992. "Some Points on Choice in Education." *Sociology of Education* 64:260-2.
- Coleman, James S., Sara D. Kelley, and John A. Moore. 1975. *Trends in School Segregation 1968-1973*. Washington, DC: Urban Institute.
- Coleman, James S., Kathryn S. Schiller, and Barbara Schneider. 1993. "Parent Choice and Inequality." Pp. 147-80 in *Parents, Their Children and Schools*, edited by B. Schneider and J. Coleman. Boulder, CO: West View Press.
- Cookson, Peter W., Jr. and Sonali M. Shroff. 1997. "Recent Experience with Urban School Choice Plans." *ERIC Clearing House of Urban Education*. Digest Number 127. Retrieved July, 13, 2008 (<http://www.ericdigests.org/1998-1/choice.htm>).
- Fairlie, Robert W. and Alexandra M. Resch. 2002. "Is There 'White Flight' into Private Schools? Evidence from the National Educational Longitudinal Study." *Review of Economics and Statistics* 84:21-33.
- Farley, Reynolds. 1975. "Racial Integration in the Public Schools, 1967 to 1972: Assessing the Effects of Governmental Policy." *Sociological Focus* 8:1-26.
- Frankenberg, Erica, Chungmei Lee, and Gary Orfield. 2003. *A Multiracial Society with Segregated Schools: Are We Losing the Dream?* Cambridge, MA: The Civil Rights Project at Harvard University.
- Giles, Michael. 1978. "White Enrollment Stability and School Desegregation: A Two Level Analysis." *American Sociological Review* 43:848-64.
- Godwin, Kenneth, Frank Kemerer, Valerie Martinez, and Richard Ruderman. 1998. "Liberal Equity in Education: A Comparison of Choice Options." *Social Science Quarterly* 79:502-22.
- Goldring, Ellen B. 1997. "Parental Involvement and School Choice: Israel and the United States." Pp. 173-198 in *Choice and Diversity in Schooling: Perspectives and Prospect*, edited by R. Glatter, P. Woods and C. Bagley. London: Routledge.
- Good, Thomas L. and Jennifer S. Braden. 2000. *The Great School Debate: Choice, Vouchers and Charters*. Mahwah, NJ: Lawrence Erlbaum Associates.

- Gray, John. 1986. *Liberalism*. Minneapolis, MN: University of Minnesota Press.
- Hassel, Bryan C. 1999. *The Charter School Challenge: Avoiding the Pitfalls, Fulfilling the Promise*. Washington, DC: Brookings Institution.
- Henig, Jeffrey R. 1990. "Choice in Public Schools: An Analysis of Transfer Requests Among Magnet Schools." *Social Science Quarterly* 71:69-82.
- , 1994. *Rethinking School Choice: Limits of the Market Metaphor*. Princeton, NJ: Princeton University Press.
- , 1996. "The Local Dynamics of Choice: Ethnic Preferences and Institutional Responses." Pp. 95-117 in *Who Choses? Who Loses? Culture, Institutions, and the Unequal Effects of School Choice*, edited by B. Fuller, R. Elmore and G. Orfield. New York: Teachers College Press.
- Henig, Jeffrey R., Richard C. Hula, Marrion Orr, and Desiree S. Pedescleaux. 1999. *The Color of School Reform: Race, Politics, and the Challenge of Urban Education*. Princeton, NJ: Princeton University Press.
- Hochschild, Jennifer L. and Nathan Scovronick. 2003. *The American Dream and Public Schools*. New York: Oxford University Press.
- Hoxby, Caroline. 1998. "Analyzing School Choice Reforms That Use America's Traditional Forms of Parental Choice." Pp. 133-56 in *Learning from School Choice*, edited by P. Peterson and B. Hassel. Washington, DC: Brookings Institution.
- Johnson, Heather B. 2006. *The American Dream and the Power of Wealth: Choosing Schools and Inheriting Inequality in the Land of Opportunity*. New York: Routledge.
- Johnson, Heather B. and Thomas M. Shapiro. 2000. "Good Neighborhoods, Good Schools: Race and the 'Good Choices' of White Families." Pp. 173-89 in *White Out: The Continuing Significance of Racism*, edited by A.W. Doane and E. Bonilla-Silva. New York: Routledge.
- Levin, Betsy. 1999. "Race and School Choice." Pp. 266-99 in *School Choice and Social Controversy*, edited by S. Sugarman and F. Kemerer. Washington, DC: Brookings Institution.
- Michigan Department of Education. 2008. *Schools of Choice*. Retrieved July 14, 2008 (<http://www.michigan.gov/mde/0,1607,7-140-43092-106922--,00.html>).
- Mickelson, Roslyn A., Martha Bottia, and Stephanie Southworth. 2008. "School Choice and Segregation by Race, Class, and Achievement." Education Public Interest Center. Boulder, CO, partnered with Education Policy Research Institute. Tempe, AZ.
- Morgan, David R. and Robert E. England. 1984. "White Enrollment Loss: The Effects of School Desegregation in Perspective." *American Politics Research* 12:241-64.
- National Center for Education Statistics. 2004. *The Condition of Education 2004*. Washington, DC: U.S. Department of Education.
- , 2007. *The Condition of Education 2007*. Washington, DC: U.S. Department of Education.
- , 2007. *Table 2. Number of Public Elementary and Secondary Schools, by School Type, Charter, Magnet, Title I and Title I School Wide Status and State or Jurisdiction. School Year 2005-2006*. U.S. Department of Education. Retrieved July 31, 2008 (http://nces.ed.gov/pubs2003/overview03/tables/table_09.asp).
- Orfield, Gary. 2001. *Schools More Separate: Consequences of a Decade of Research*. Cambridge, MA: The Civil Rights Project at Harvard University.
- Orfield, Gary and Susan E. Eaton. 1996. *Dismantling Desegregation: The Quiet Reversal of Brown v. Board of Education*. New York: The New Press.
- Orfield, Gary and John T. Yun, 1999. *Resegregation in American Schools*. Cambridge, MA: The Civil Rights Project at Harvard University.

- Plank, David N. and Gary Sykes. 1999. "How Choice Changes the Education System: A Michigan Case Study." *International Review of Education* 45:385-416.
- Prins, Esther. 2007. "Interdistrict Transfers, Latino/White School Segregation, and Institutional Racism in a Small California Town." *Journal of Latinos and Education* 6:285-308.
- Rabkin, Jeremy A. 1989. "Taxing Discrimination: Federal Regulation of Private Education." *Public Values, Private Schools* 133:138-9.
- Renzulli, Linda A. and Lorraine Evans. 2005. "School Choice Charter Schools and White Flight." *Social Problems* 52:398-418.
- Rudner, Lawrence M. 1999. "Scholastic Achievement and Demographic Characteristics of Home School Students in 1998." *Education Policy Analysis Archive* 7(8). Retrieved August 24, 2008 (http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/16/fa/92.pdf).
- Ryan, James. 2004. "Brown, School Choice, and the Suburban Veto." *Virginia Law Review* 90:1635-47.
- Saporito, Salvatore. 2003. "Private Choices, Public Consequences: Magnet School Choice and Segregation by Race and Poverty." *Social Problems* 50:181-203.
- Saporito, Salvatore and Annette Lareau. 1999. "School Selection as Process: The Multiple Dimensions of Race in Framing Educational Choice." *Social Problems* 46:418-39.
- Sikkink, David and Michael O. Emerson. 2008. "School Choice and Racial Segregation in US Schools: The Role of Parents' Education." *Ethnic and Racial Studies* 31:267-93.
- Sly, David F. and Lois G. Pol. 1978. "The Demographic Context of School Segregation and Desegregation." *Social Forces* 56:1072-86.
- Smith, Kevin and Kenneth Meier. 1995. "Public Choice in Education: Markets and the Demand for Quality Education." *Political Research Quarterly* 48:461-78.
- Tedin, Kent L. and Gregory R. Weiher. 2004. "Racial/Ethnic Diversity and Academic Quality as Components of School Choice." *The Journal of Politics* 66:1109-33.
- Teske, Paul and Mark Schneider. 2001. "What Research Can Tell Policymakers about School Choice." *Journal of Policy Analysis and Management* 20:609-31.
- Walberg, Herbert. 2000. "Market Theory and School Choice." *Education Week* 19:42.
- Wells, Amy S. 1993. *Time to Choose: America at the Crossroads of School Choice Policy*. New York: Hill and Wang.
- Wells, Amy S. and Robert Crain. 1992. "Do Parents Choose School Quality or School Status: A Sociological Theory of Free Market Education." Pp. 174-96 in *The Choice Controversy*, edited by P. Cookson. Newbury Park, CA: Corwin Press, Inc.
- Witte, John. 2000. *The Market Approach to Education*. Princeton, NJ: Princeton University Press.
- Wolf, Patrick, William Howell, and Paul Peterson. 2000. "School Choice in Washington DC: An Evaluation After One Year." In *The Conference on Vouchers, Charters and Public Education*. Cambridge, MA: Harvard University Program on Education Policy and Governance.
- Wraga, William. 2006. "The Heightened Significance of 'Brown v. Board of Education' in Our Time." *Phi Kappa Delta International* 87:425-28.

What We Have Here Is a Failure to Communicate: Using a Model to Explain Textbook Representations of Human Evolutionary Theory



Ben Winegard
McNair Scholar



Robert Deaner, Ph.D.
Faculty Mentor

Abstract

In this paper we develop a general model to explain the hostility toward, and ignorance of, human evolutionary theory (ET) in the social sciences. We first provide relevant theoretical background explaining the basics of ET. We then briefly describe the history of, and reasons for, social science attacks against ET. After providing this background, we turn to our study of social science textbooks, describe the logic of our model, and specify four explicit predictions derived from it. Finally, we present the results of our study and discuss the significance of our findings.

I.1 Theoretical Overview of Human Evolutionary Theory

Human evolutionary theory (used here interchangeably with ET¹) is a theoretical approach to the entire field of human science motivated by the desire to illuminate human behavior by subjecting it to evolutionary analysis (Barkow, Cosmides, & Tooby, 1992; Buss 1995; Tooby & Cosmides, 2005). More specifically, it approaches human nature from an adaptationist perspective, attempting to discern the specific adaptations that underlie and give rise to human behavior—especially social behavior (e.g., mating behavior, cooperation, coalitional behavior, family dynamics, etc.) (Sanderson, 2001). Although often seen as contentious or controversial (see section II below; see also Rose and Rose, 2000), its ability to elucidate human behavior follows from two simple and uncontroversial facts: 1) Evolution explains the nature of the biological world, and 2) Humans are biological creatures (Atran, 2005). If these premises are accepted—and most social scientists do accept them—ET should appear a natural, inevitable, and fruitful approach to the study of human behavior. In fact, ET provides a productive metatheory for the social sciences, unlike other popular theoretical perspectives such as rational choice theory, which assumes that individuals choose the ‘best’ action according to stable preferences with well-defined constraints (Simon, 1955; Ketelaar & Ellis, 2000; Kanazawa, 2001). Because of its insistence on viewing humans as evolved organisms, ET asserts that an understanding of natural selection and sexual selection is essential for a comprehensive understanding of human behavior (Mayr, 1985; Buss, 1995; Tooby and Cosmides, 2005).

¹ There are several theoretical perspectives that apply evolutionary theory to human social behavior, including socio-biology, dual inheritance theory, behavioral ecology, and evolutionary psychology (see Smith, 2000), all with slightly different assumptions and methods, yet all similar at core. For simplicity, we use the umbrella term ET.

I.2 Natural and Sexual Selection

Darwin's theories of natural selection and sexual selection are essential to understanding ET. Darwin was not the first thinker to propose that life evolves; rather, he was the first thinker to propose a plausible mechanism² explaining *why* and *how* life evolves (Darwin 1859/1958). His proposal can be reduced to three principles: 1) Organisms vary in their ability to reproduce. Some cheetahs, for example, run faster than others and consequently can procure more resources; *ceteris paribus*, such cheetahs will survive longer and are likely to have greater reproductive success. 2) Organisms inherit traits from their parents. Fast cheetahs pass their running ability to their offspring. 3) More organisms are born than survive. Organisms that inherit traits that allow them to more effectively interact with their environment are more likely to survive long enough to reproduce. The faster cheetahs, for example, because they are better at obtaining important resources, will survive and pass on their traits. The statistical result of this process is a pool of "fitter" organisms (see Alcock, 2005, for many specific empirical examples).

A useful distinction can be made between natural selection proper and sexual selection. According to Darwin (1871), organisms not only compete for environmental resources, they also compete to attract and acquire mates. This process is termed sexual selection and leads to two different types of attributes: 1) attributes that enhance an organism's ability to compete with members of its own sex for access to mates, and 2) attributes that attract the opposite sex (Andersson, 1994; Andersson & Iwasa, 1996). The first type of attribute is illustrated by the disparity in size between male and female elephant seals. Male elephant seals are an average of three times larger than females because they have a long evolutionary history of competing with each other for access to females (Le Boeuf, 1974). The

second type of attribute is illustrated by the peacock's elaborate train. Although the train appears to have no direct survival function, it serves to attract peahens; therefore, on average, peacocks with large, colorful trains leave more offspring than do those with less elaborate trains (Petrie & Halliday, 1994).

Darwin's theories established a scientific paradigm for biology, and like all paradigms, it has been continually refined. For example, Hamilton's (1964) theory of inclusive fitness shifted the focus of biologists from individuals and their direct reproductive success to genes and their differential replication (Griffin & West, 2002). Since genes are the real unit of natural selection, Hamilton argued that biologists needed to pay attention to inclusive fitness rather than direct fitness. If, for example, genes in one organism gave rise to the ability to detect shared genes in another—a brother or sister, son or daughter, cousin or nephew, for example—and also to the propensity to help those genes replicate (under the right circumstances)³, those genes (because of their phenotypic effects) would be selected for. The theory of inclusive fitness allowed biologists to explain many otherwise puzzling phenomena. To take a familiar example, humans are often willing to make enormous sacrifices for relatives, sacrifices they would not make for strangers or even for friends. Given this reality, it is not surprising that kin terms are universal (Brown, 2004) and are capable of provoking intense emotions (for a readable account of attempts to explain altruism biologically, see Dugatkin, 2006).

I.3 Roots of Sociobiology

Hamilton's inclusive fitness theory was vitally important because it set the stage for the gene-centered view of evolution, a view that was clarified in the sixties and seventies by Williams (1966) and Dawkins (1976), among others, and provided the theoretical underpinning of

modern ET. Also important to ET was the socially oriented biological thinking of Wilson (1975/2000) and Trivers (1971; 1972). Especially relevant are two theories developed by Trivers: reciprocal altruism and parental investment.

Reciprocal altruism consists of delayed but mutual acts of benefaction between organisms (Trivers, 1971). For example, if an animal shares food with another at time *x* and receives food back at time *y*, both animals may benefit. Although reciprocal altruism has been reported in animals as diverse as vampire bats (Wilkinson, 1984) and stickleback fish (Milinski, Pflüger, Külling, & Kettler, 1990), primates provide the best documented cases. Primates preferentially groom individuals who groom them; they preferentially support those who support them (Schino, 2007). Reciprocal altruism is important because it allows for the evolution of greater cooperation among non-related organisms, a kind of cooperation that is especially prevalent among humans (Barber, 2004; Lehman & Keller, 2006).

Parental investment explains the diversity of mating strategies in nature (see also Clutton-Brock, 1991; Dunbar, 1995). Because of its complexities, the theory cannot be properly explicated here; however, one important facet of it—an argument that goes back to Darwin (1871)—should be noted. Darwin argued that when choosing mates the sex that invests more in its offspring will be more discriminating. By definition, females produce larger gametes which require higher initial investment than do male gametes. This difference leads to adaptive strategies of high relative mating effort in males and high relative parental effort in females (Low, 2000). In many animal species, males invest enormous amounts of energy attempting to attract and procure mates—the elaborate bower of the bower bird, the huge train of the peacock—while females invest vast amounts of energy in birthing and caring for their offspring. In some cases,

² It is important to remember that the theory of evolution by natural selection was co-discovered by Charles Darwin and Alfred Russel Wallace. However, Darwin took the theory further and discovered the principles of sexual selection (Larson, 2004).

³ Hamilton's rule for these conditions can be stated more formally: $C < R \times B$. Where *C* is the cost in fitness to the actor, *R* is the coefficient of relatedness between the actor and the recipient, and *B* is the benefit in fitness to the recipient.

in fact, the male's investment ends at copulation (Møller & Thornhill, 1998). Although humans show a large degree of biparental care, there is still a significant sex difference in parental investment. More importantly, there is a significant sex difference in the minimum possible parental investment. Women always bear the risks of pregnancy and the exorbitant energetic costs of bringing a fetus to term (Symons, 1979). Due to these sex differences, women are predicted to be choosier about whom they mate with than men, a prediction that has been amply demonstrated (Clark & Hatfield, 1989; Schmitt et al., 2003; McBurney, Zapp, & Streeter, 2005).

1.4 What Is an Adaptation?

Although nearly impossible to offer an exact, noncontroversial definition of adaptation, it is not difficult to forward a useful, working definition. An adaptation is an inherited attribute that developed through the processes of natural or sexual selection because it helped an organism interact more effectively with the environment and with other organisms, including conspecifics (Williams, 1966; Buss, Haselton, Shackelford, Bleske, & Wakefield, 1998). Some adaptations are quite clear and easy to discern. Take, for example, the cheetah's running ability. Cheetahs' bodies have been carefully refined by millions of years of natural selection to support and produce bouts of incredible running speed (Taylor & Rowntree, 1973). Other adaptations are more difficult to demonstrate. This is often the case when considering possible psychological adaptations. In these cases, it is important to collect a wide variety of evidence from multiple sources to reach convergent conclusions. It is also necessary to test plausible counterhypotheses.

To illustrate, consider the case of men's age preference for potential mates, which is sometimes considered a product of socialization (Eagly & Wood, 1999). Using evolutionary logic, it is plausible to hypothesize that men will find women who have high reproductive value (ages circa 18-30) more attractive than other women (those outside of the age group). To establish the validity of this hypothesis, ETs use convergent data (Schmitt

& Pilcher, 2004). For example, data from Western societies demonstrates that adolescent men prefer substantially older women as dating partners (Kenrick, Keefe, Gabrielidis, & Cornelius, 1996), while cross-cultural self-report, questionnaire, personal advertisement, and marriage license data indicate that older men prefer substantially younger women (Buss, 1989; Kenrick & Keefe, 1992). Ethnographic evidence from the Hadza—a hunter-gatherer society from Tanzania—also supports the hypothesis: Hadza men prefer young, fertile women (Marlowe, 1998, 2004). Taken together, the evidence shows that men do not simply prefer younger women; they prefer women in a specific age range. This data is difficult to account for from a socio-cultural perspective because it shows that men's preferences are age-specific and exist in societies untouched by Western media. Convergent data, therefore, allow ETs to falsify plausible counterhypotheses (the sociocultural hypothesis, for example), thus providing firmer support for their own (the age-specific adaptation hypothesis).

1.5 Adaptationism

According to ET, human behavior is most profitably studied from an adaptationist perspective (Tooby & Cosmides, 2005). Adaptationism is a heuristic that involves looking at physiological and psychological mechanisms and asking what their function or purpose is (Resnik, 1997). For example, most pregnant women worldwide suffer from morning sickness. The adaptationist perspective assumes that a universal, costly phenomenon such as this serves a purpose (i.e., aids in survival and/or reproduction). Although there is no universal agreement on the root cause of morning sickness, the adaptationist perspective has generated plausible hypotheses that are currently being tested. A leading candidate is that morning sickness protects the developing embryo from harmful toxins and microorganisms (Flaxman & Sherman, 2000, 2008). As adumbrated above, adaptationist hypotheses are subjected to rigorous testing before achieving provisional acceptance. This perspective has been criticized (see, for example, Gould, 1997),

but it follows logically from two facts: 1) Natural selection is the only known process that creates biological order and function, and 2) All behavioral and cognitive processes point toward organized substrates or mechanisms, whether physiological or psychological, that play an important role in the explanation of human behavior. Even Skinner's brand of behaviorism implied the existence of adaptations for operant conditioning (Skinner, 1974; Buss, 1995), some perhaps quite complicated. This does not mean that every particular behavior is an adaptation in itself (Atran, 2005). There is, for example, no adaptation for being a fan of the Los Angeles Lakers. Or, even more extreme, there is no adaptation for being disgusted by spider x at time y. It is probable, on the other hand, that there is a general adaptation for fearing or being disgusted by spiders (Buss, 1995; Vernon & Berenbaum, 2002), and that there are adaptations for coalitional reasoning, which are co-opted by team sports (Wrangham, 1999; Kurzban, Tooby, & Cosmides, 2001; Wagner, Flynn, & England, 2002; Winegard & Deaner, 2008). Adaptationism has proved to be a powerful tool in analyzing human behavior and is integral to the program of ET.

1.6 Ultimate and Proximate Explanations

ETs study and analyze behavior from a number of different explanatory levels (Tinbergen, 1963; Goetz & Shackelford, 2006). Two of the most fruitful are the proximate and the ultimate (distal). The ultimate level addresses a trait or behavior's evolutionary function, the proximate the physiological (or psychological) makeup of the particular trait or behavioral mechanism (see figure 1). To consider in more detail, take the example of male status-seeking behavior. There are a variety of ways to explain such behavior from the proximate level: Status and recognition give pleasure; status and recognition give power; status and recognition give access to enjoyable activities. These proximate explanations are all true, but from the ultimate perspective, status-seeking behavior exists because it has a long evolutionary history of translating into reproductive success (Boone,

1986; Chagnon, 1988; Strassman, 1997; Zerjal et al., 2003; for non-human animals, see Ellis, 1995). It is especially important to keep this distinction in mind when analyzing humans because there is a tendency to conflate ultimate evolutionary causes with proximate psychological mechanisms. This leads to strange claims about human motivation that are palpably at odds with empirical evidence, such as that every thing a man does, he does for sexual purposes (Buller, 1999; for an egregious example of this confusion, see Kanazawa, 2007). While this statement may have some validity from the ultimate level of explanation, it is patently absurd from the proximate. Mozart wrote music because he had a passion to do so, not because he desired sex.

[NTSB], 1999; McNamee, 2001), fear of snakes is a common human phobia, while fear of automobiles is not. Or consider our propensity to eat foods high in sugars, fats, and salts (see figure 2 below). Before the creation of supermarkets and fast food restaurants, ripe fruits and meat from hunted animals provided our ancestors' with energy-rich, metabolically efficient foods. Because these foods once required considerable effort to acquire, natural selection favored neural systems that rewarded the pursuit and consumption of them (Gerber, Williams, & Gray, 1999). In most modern societies, these foods no longer require effort to obtain. Yet our taste preferences remain and are further exploited by the calculated refinement of various food

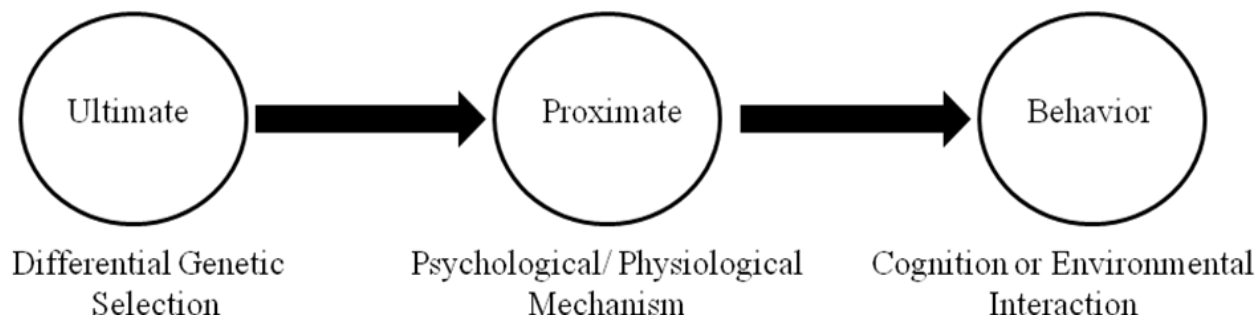


Fig. 1. The ultimate level refers to the selection pressures in the past which led to certain traits or behaviors in organisms. The proximate level refers to the psychological/physiological mechanisms that produce the behavior in a specific environment at a specific time. Proximate mechanisms are influenced by various factors such as the environment, cognition, etc. Thus, behavior can be explained from either level without conflict. See text.

I.7 Not All Adaptations Are Currently Adaptive

Because biological evolution occurs relatively slowly, environmental changes can outpace genetic ones. This fact is especially important when considering humans because of our ability to rapidly alter our environment. Our minds were not designed to solve the problems of living in a heavily populated, technological society. For example, even though the risk of being killed by an automobile considerably outweighs that of being killed by a snake (41,611 deaths from motor vehicle accidents in USA in 1999, versus 10-15 per year from snake bites) (National Transportation Safety Board

products, creating an array of tasty snacks (e.g., candy bars, ice cream, potato chips) that tap into our ancestral proclivities. For these reasons, many ETs believe that a search for psychological adaptations should begin with our purported “environment of evolutionary adaptedness” (EEA). This is the environment that our ancestors spent the majority of their existence in; consequently, many current psychological adaptations were shaped by forces that prevailed in the EEA (Barkow et al., 1992; but see Smith, 2000; 2001). It is important to understand that the EEA is not a concrete place in time, but rather a statistical composite of selection pressures affecting a species in its ancestral past. ETs do not believe that one could travel back in time, as it were, and land in the EEA. Whether or not a strong version of the EEA hypothesis turns out to be true, a plethora of evidence indicates that a weaker version will remain necessary to fully understand human behavior (for further discussion, see Crawford, 2000).

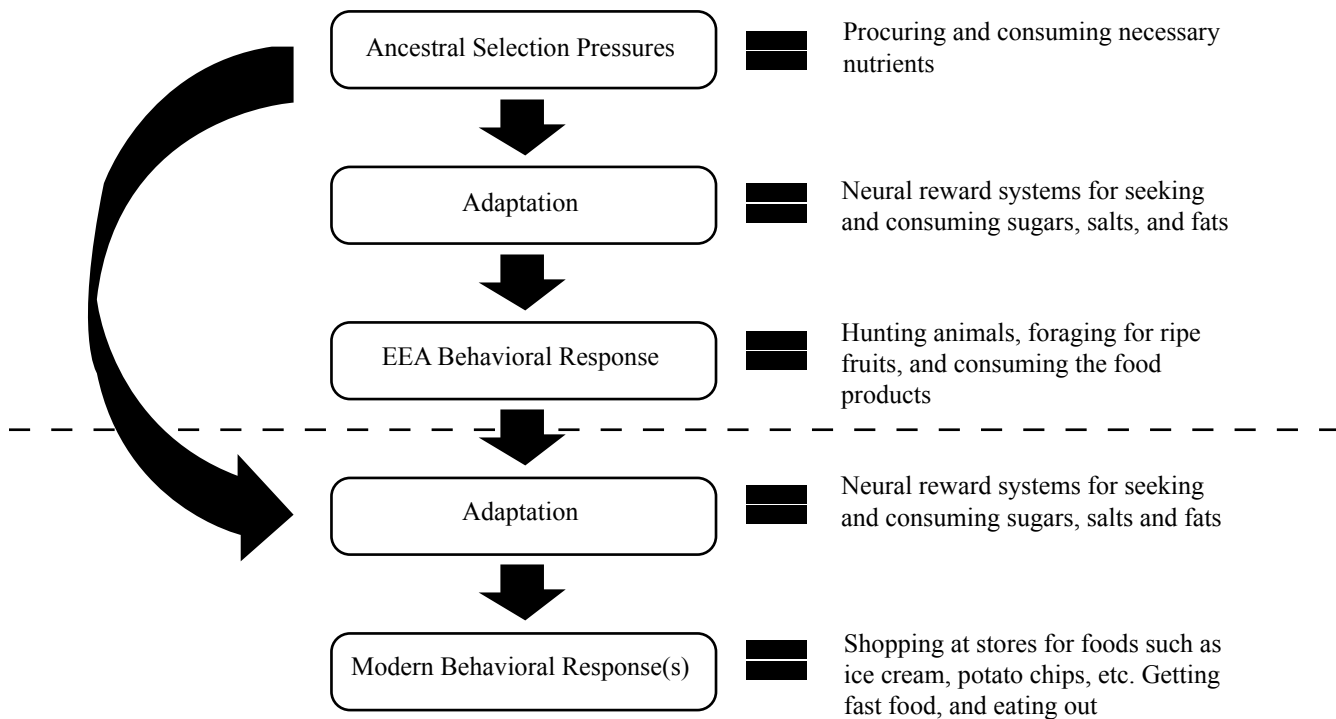


Fig. 2. Model depicting the interactive relationship between preexisting adaptations and the modern environment. In this example, the pressure was procuring proper nutrients. This pressure led to a neural reward system for seeking and consuming sugars, salts, and fats. The dashed line represents a break between our ancestral environment and current conditions in the industrialized nations. In the modern environment shown below the dashed line, the same neural reward system is active but many novel foods and technologies exploit it, as shown by the arrow on the left. This is a clear example of social change outpacing genetic change (adapted from Crawford, 1993).

1.8 Concluding Remarks on ET

ET is a theoretical approach that consists of using Darwin's theories of natural and sexual selection to explain human behavior and cognition. ET uses adaptationism as a heuristic to create hypotheses about the purpose or function of specific adaptations. Importantly, ETs realize that not all adaptations are currently adaptive. This research program has ramifications for all disciplines because humans, whatever else they might be, are the end products of millions of years of natural and sexual selection. Due to this fact, Wilson (1998) advocates the unity of all branches of human study and calls this process ET is a theoretical approach that consists of using Darwin's theories

of natural and sexual selection to explain human behavior and cognition. ET uses adaptationism as a heuristic to create hypotheses about the purpose or function of specific adaptations. Importantly, ETs realize that not all adaptations are currently adaptive. This research program has ramifications for all disciplines because humans, whatever else they might be, are the end products of millions of years of natural and sexual selection. Due to this fact, Wilson (1998) advocates the unity of all branches of human study and calls this process *consilience*. ET offers promise that this ambitious goal can be fulfilled (see table 1) (Alcock, 2001).

Table 1. Some Representative Interdisciplinary Works from ETs

Author(s)	Subject
Thayer, 2000	International Relations
Barash & Barash, 2005 Gottschall & Wilson, 2005 Gottschall, 2008	Literary Criticism
Browne, 2002 Jones & Goldsmith, 2005	Law
Boyer, 2001 Atran, 2002 Wilson, 2002 Kirkpatrick, 2005 Boyer & Bergstrom, 2008	Religion
Betzig, 1986 Betzig, 1992 Diamond, 1999 Betzig, 2005 Hart, 2007	History
De Waal, 1996 Hauser, 2006 Haidt, 2007 Haidt, 2008	Morality/Ethics
Johnson, 2004 Gat, 2006	Warfare
Alford and Hibbing, 2004 Alford, Funk, & Hibbing, 2005 Carmen, 2007	Political Attitudes/Behavior

II Attacks on Evolutionary Theory

It is perhaps worthwhile to examine the historical reasons for the development of an anti-evolutionary mindset in the social sciences. Many early psychologists and social theorists such as Marx, Freud, Galton, Spencer, James, Shaw, Dewey, Cooley, and Thorndike enthusiastically embraced Darwinism and attempted to use the principles of evolution to sharpen their analyses (Jones, 1980; Degler, 1991). During this period, eugenics was as likely to be embraced by left-wing reformers as by right-wing traditionalists (Kelves, 1985). However, the enthusiasm of left-wing thinkers began to wane in the early twentieth century. In anthropology, Franz Boaz, Ruth Benedict, and Margaret Mead all wrote influential books that assailed the idea of biological universals and ushered in a form of environmental determinism (Richards, 1987). In psychology, a parallel process occurred, with John Watson leading the environmentalists' cause (Plotkin, 2004). At this point, ET was almost exclusively a right-wing style of thinking as most of the left were won over by theories of environmental determinism. In fact, the ideas of ET and some form of exploitative social order became nearly synonymous, as illustrated by Richard Hofstadter's (1942/1992) warning in the early 1940s that "a resurgence of social Darwinism in either its individualist or imperialist uses is always a possibility so long as there is a strong element of predacity in society" (p. 203). Opposition to Nazism seemed to bury ET, as many saw Nazism as the inevitable outgrowth of biologically oriented theories of social behavior.

For about twenty years after the end of World War II, environmentalism so thoroughly dominated popular thought that most intellectuals accepted it without reflection. The major exceptions to this trend were psychologists influenced by the burgeoning cognitive revolution (Chomsky, 1959; Neisser, 1967). In this milieu, E.O. Wilson (1975/2000) published *Sociobiology*, which became the centerpiece of a new debate about the legitimacy of applying ET to analyses of human social behavior (Segraståle, 2000). This time, the social sciences

were nearly unified in their disdain for and rejection of ET.

This unification, however, was not equal across disciplines. Because psychology had already integrated the nativism of the cognitive revolution, and because it had a tradition of respecting and profiting from biologically oriented thought (e.g., physiology, psychiatry), it was more accepting of modern ET than the other human sciences (Benjafield, 2005; Hunt, 2007). On the other end of the spectrum, sociology was and continues to be strongly opposed to integrating ET into its research program. Ellis (1977), van den Berghe (1990), and Massey (2002) offer several reasons for this. First, many sociologists lack biological competence. Second, sociology has a history of antireductionist thought; therefore, many sociologists argue that the reductionistic strategy of biology is irrelevant for explaining higher-order social phenomena. Third, sociology is an overtly moralistic discipline: Many sociologists show as much concern for a theory's political significance as they do for its explanatory power (Lopreato & Crippen, 1999).

III General Purpose and Logic of Our Study

We were interested in discerning the reasons for the perpetuation of hostile attitudes toward ET. We assumed that erroneous information was a key factor, as well as exposure to authorities who denigrated ET. Given these assumptions, textbooks were a logical source to examine. A literature review revealed two previous studies relevant to our goal. Cornwell, Palmer, Guinther, and Davis (2005) investigated 262 introductory psychology textbooks over a 30-year span beginning in 1975. They found that 48 percent of the textbooks presented ET in an accurate manner (tabulated from figure 2), while 57 percent presented it in a positive or neutral manner (tabulated from figure 3). In another study, Martin and Machalek (2006) investigated 35 of the top-selling introductory sociology textbooks. Of the sample, 69 percent of the books covered ET. A content analysis revealed that many egregious errors were made in their presentations of ET. Pre-

dominate among the errors were charges of genetic determinism and biological reductionism.

Our study expands upon these two studies in important ways. First, we developed a general model to explain and make testable predictions about the perpetuation of errors and hostility toward ET (see figures 3 and 4 below). Second, we quantified specific types of errors and marked their occurrence in the textbooks we analyzed. Third, we compared textbooks from separate disciplines, psychology and sociology. These features of our analysis will help social scientists assess the accuracy of textbooks across disciplines. They also facilitate dialogue about possible ways to solve the problems that arise from the transmission of distorted information about ET.

For several reasons, we chose to focus on sex/gender textbooks. First, previous exposure had convinced us that sex/gender textbooks are especially liable to make erroneous claims about ET. Second, the history of ET led us to believe that politically charged subjects, such as race and sex/gender, are more likely to be presented in a normative framework which distorts science (e.g., Fausto-Sterling, 1992; Hubbard, 1997; Rushton & Jensen, 2005). Third, ET provides a powerful framework for generating novel theories about sex differences. ETs have used these theories to create and test a wide variety of interesting predictions about sex differences in cognition and behavior (e.g., Geary, 1998; Kimura, 1999; Halpern, 2000; Buss, 2003). Thus, it is important that sex/gender researchers and students become acquainted with accurate presentations of ET.

IV Hypothesis and Predictions

Below, we develop a general model to explain the continuing ignorance of and hostility toward ET in the social sciences. Specifically, we suggest that there is a self-perpetuating cycle, led by social science faculty, which results in the transmission of biased information about the basic tenets of ET (figures 3 and 4). Our model can be broken down into a few basic components.

IV. 1. Antecedent Factors

Social science professors' attitudes toward various theoretical perspectives do not develop in a vacuum. We posit four general factors which influence knowledge of and attitude toward ET. 1) *Biological Illiteracy*: Since biology is not a regular part of the curriculum of the social sciences, many professors are functionally illiterate about the basic tenets of ET. 2) *Historical Contingency*: The historical trajectory in many of the social sciences has moved toward environmentalist explanations of social behavior and away from biological or genetic explanations (Degler, 1991; Lopreato & Crippen, 1999). 3) *Anti-Reductionism*: As noted above, many social scientists, especially in sociology, distrust reductionism in science, believing that social phenomena must be explained by social factors (Durkheim, 1895/1982). Thus, the search for the biological underpinnings of social behavior appears fruitless or even dangerously misguided. 4) *Moral/Political Factors*: Many of the social sciences are populated by scholars who see theory as a tool to fight for social justice (Sowell, 1987; Lipset, 1994). This, combined with skepticism about the possibility of scientific objectivity, has led to suspicion of ET and consequently its lack of use as a major theoretical perspective (see section II) (Sanderson & Ellis, 1992).

IV. 2. Faculty and Textbook Selection

The antecedent factors listed above give rise to faculty members who display negative attitudes toward ET. These faculty members are likely to select textbooks which reflect their own ideological positions; thus textbooks which contain accurate, non-hostile summaries of ET are unlikely to be used in social science classrooms. Previous studies of textbooks suggest this is indeed the case (Cornwell et al., 2005; Martin & Machalek, 2006). It is important to emphasize that most social science professors probably select textbooks based on their popularity and/or general ideological orientation, rather than what the textbooks explicitly say about ET. However, due to the general ideological predilections of many social scientists, this selection process automatically eliminates the textbooks which

portray ET in a positive manner. For example, a textbook written from a Marxist or symbolic interactionist perspective is unlikely to present ET and, if it does, unlikely to present it accurately.

IV. 3. Students

We do not assume that students come into the social sciences with negative attitudes or intrinsic antipathy toward ET. In fact, it seems probable that most social science students lack knowledge of biology, or, at most, have nominal biological literacy (Uno & Bybee, 1994; Wright & Klymkowsky, 2005). This lack of knowledge makes undergraduate textbooks extremely powerful tools for the pedagogical transmission of information about ET. If most textbooks are hostile and/or inaccurate, then students will more than likely misunderstand ET and harbor hostility toward it. Most of these students will leave academia, but a few, who have absorbed the dogmas of their discipline, will continue on to become researchers and teachers.

IV. 4. A Cycle of Hostility

The components of our model described above create a cycle of hostility toward ET: Faculty who are hostile select more hostile and less accurate textbooks and assign them to students who, in turn, become hostile. Some of these students become professors who then perpetuate erroneous views of ET by selecting similarly inaccurate and hostile textbooks.

Four testable predictions can be derived from this model (Figures 3 and 4): (P1) Sex/gender textbooks will systematically misrepresent ET as measured by number of types of errors made and attitude; (P2) Sex/gender textbooks with higher levels of hostility will make more types of errors when discussing ET; (P3) Sex/gender textbooks that are more popular will make more types of errors when discussing ET than less popular textbooks; (P4) Sociology sex/gender textbooks will contain more types of errors and display more hostility than will psychology sex/gender textbooks (see section II for background).

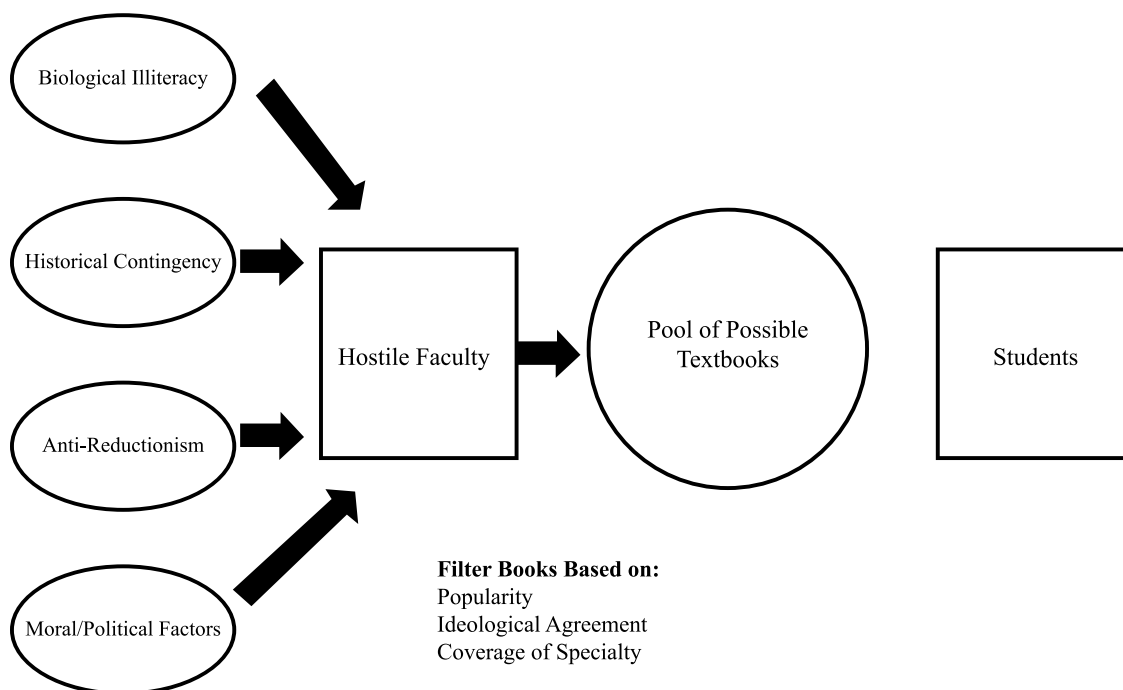


Fig. 3. General model of self-reinforcing ignorance of and hostility toward ET. See text and figure 4 below (adapted from Ellis, 1996).

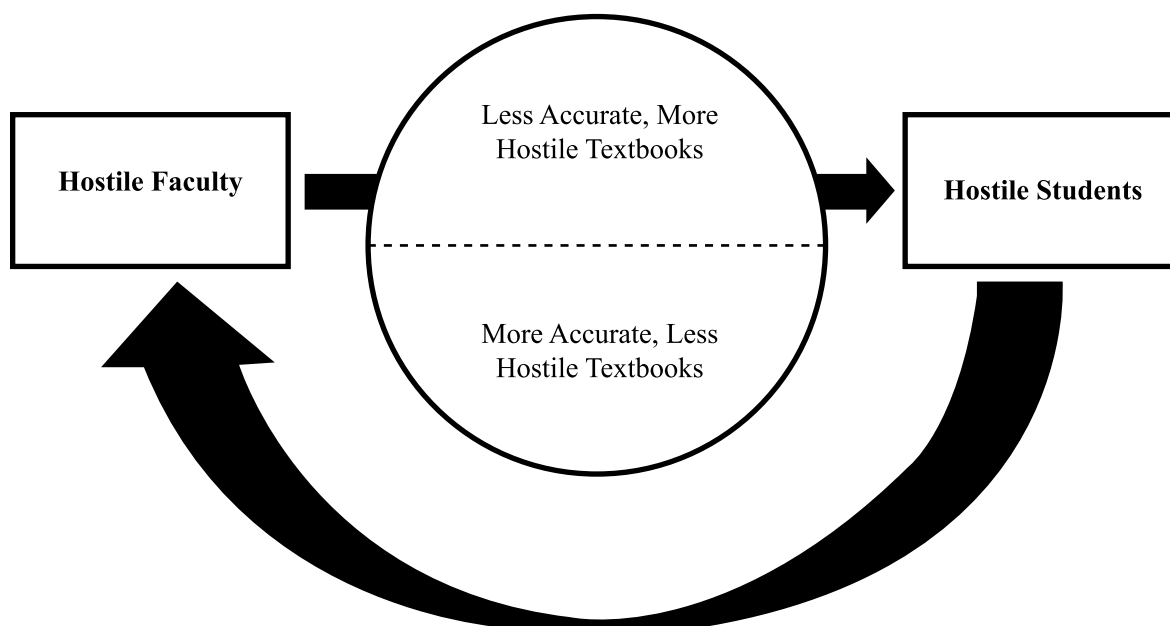


Fig. 4. Continuation of figure 3. See text.

V Materials and Methods

V. 1. Textbook Selection

We began identifying social science textbooks focusing on sex and/or gender by contacting Monument Information Resource (MIR), a company that compiles information on undergraduate textbook usage in the United States. MIR provided us with separate databases for all psychology and sociology courses taught in the fall of 2007 with titles similar to "Sex and Gender," "Women's Studies," and "Human Sexuality." For each course, information was provided on the institution where the course was taught, the course title, the instructor, the expected enrollment, and any required or recommended books. For both psychology and sociology databases, we sorted the books by title and used online resources, such as reviews and publisher's descriptions, to initially identify introductory textbooks to sex and gender that were broad in scope, including discussions of both social and biological factors that influence gender-differentiated behavior. We excluded textbooks published prior to 1995, edited volumes, encyclopedias, readers or article compilations, specialized academic books (e.g., those on sexual violence, human sexuality, gender and aging, gender and religiosity, gender and math, gender and labor markets, gender and group processes), and non-academic books (e.g., those marketed toward parents or lay audiences). In cases where it was unclear if a book was appropriate, we obtained it and collectively made a judgment. We selected the nine most popular psychology textbooks and the six most popular sociology textbooks. Future studies will examine books that are less widely used.

We obtained rankings of each textbook's popularity by summing the student enrollment in all courses where the textbook was required or recommended in the 2007 academic year. For the textbooks used in our sample, the mean expected student usage per semester was 2,990; the median was 2,180 (see Appendix A for the list of textbooks included in the sample). After obtaining the textbooks, we began the coding process.

V. 2. Procedure for Coding Texts

In order to find the pages in the textbooks that covered ET and code them, we developed a list of six key words (evolution, Darwin, natural selection, sexual selection, biology, evolutionary psychology, and sociobiology) and used the index to sum the number of pages mentioning these terms. These sections of the text were analyzed and coded; all other pages were excluded.

V. 3. Procedure for Coding Errors

We made a list of seven common and egregious errors that social scientists are suspected of making when discussing ET. The list was compiled by consulting popular evolutionary psychology textbooks. In these textbooks, readers are clearly told to avoid the errors that we compiled (Cartwright, 2000; Bridgeman, 2003; Buss, 2008).

V. 4. The Coded Errors

Below is a list of the seven errors we coded and an explanation and example of them. Note that biological determinism, naturalistic fallacy, and intentionalistic fallacy are errors wrongly attributed to ET, while mechanical demonstration, moralistic fallacy, conservative agenda, and ad hominem are errors or fallacies used to argue against ET. Some specific textbook examples are provided in Appendix A.

1. Biological Determinism. The assertion that biology can explain all social behavior and that humans are entirely determined by biological forces. For example, the claim that war is inevitable because it is hardwired.

2. Naturalistic Fallacy. The assertion that what exists is either somehow good or right simply because it exists. For example, the claim that inequality is justified because it currently exists and has existed for many years.

3. Mechanical Demonstration. The assertion that if a scholar lacks knowledge of the specific proximate mechanism for a behavior, then that scholar is unable to

legitimately make any claims about the evolutionary function of the behavior. For example, the claim that we cannot reasonably discuss the evolutionary function of human food preferences because we do not have knowledge of the specific physiological pathways involved.

4. Moralistic Fallacy. The assertion that what is deemed good must be able to exist and that any theory that circumscribes its possibility cannot be true. For example, the claim that there are no sex/gender differences because such differences are judged undesirable and are thought to have negative political ramifications.

5. Conservative Agenda. The assertion that ETs have a conservative and/or right-wing political agenda and that this agenda significantly influences their research. For example, the claim that scholars should ignore ETs because their work is used or has been used to justify the status quo, and that the ETs themselves either openly or secretly favor this.

6. Ad Hominem. An attack aimed at a person rather than an argument. For example, the claim that people should ignore the work of scholar X because he hates women.

7. Intentionalistic Fallacy. The assertion that humans intentionally and consciously attempt to enhance their inclusive fitness. For example, the claim that the existence and usage of contraceptives disproves ET's account of the evolution of sexual motivation.

When coding the textbooks for errors, we accepted a statement as fitting one of the seven only if it was explicit. Where there was ambiguity we erred on the side of not coding the passage as an error.

V. 5. Attitude Ranking

We coded the attitude of the textbooks on a 5-point Likert scale with 1 being extremely hostile and 5 extremely positive. Here we used the general tone of the text. Importantly, we understood attitude and accuracy to be independent constructs with no a priori relationship. For

example, consider the following passage:

Thus males are hardwired genetically to be promiscuous sexual predators, ever on the prowl for new potential sexual conquests, whereas females have a built-in biological tendency toward monogamy, fantasies of romantic love and commitment coupled with sexual behavior, and a certain sexual reticence that can be overcome only by chivalric male promises of fealty and fidelity. (Kimmel, 2008, p. 24)

Regardless of whether or not it is an accurate presentation, the hostile rhetoric would receive a one on the attitude scale. On the other hand, the next passage, although inaccurate, is not written in a hostile tone and would receive a neutral (three) score:

The theory [sociobiology] implies that such human social behaviors as war, rape, and racism have been "built in" through our evolution and that it is impossible to make fundamental changes in the relations between the sexes. (Lips, 2005, p. 77)

When giving a final score for each textbook, we averaged over the entire section as identified by our search criteria. Therefore, one or two passages were not given undue consideration and were treated equally with all other passages in the section.

V. 6. Coder Reliability

We used two coders, one of whom coded seven textbooks while the other coded ten. Two textbooks were coded independently to check for reliability. Coding of the two texts was identical for errors and the correlation for attitude ratings was very high.

Table 2. General Overview of Textbooks

Author(s)	Discipline	Attitude	Types of Errors	Popularity
Anderson, M. (2006)	Soc	1	1,2	15
Brannon, L. (2007)	Psych	2	1,5	2
Caplan, P.J., & Caplan, J.B. (1999)	Psych	1	1,2,5,6	14
Connell, R.W. (2002)	Soc	2	1,4,5	10
Crowford, M., & Ungor, R.K. (2004)	Psych	2		13
Hagelund, V.S. (2005)	Psych	2	1,7	9
Hyde, J.S. (2007)	Psych	2	1,2,3,4,5	6
Johnson, A.G. (2005)	Soc	2	1,2,4,5	8
Kimmel, M.S. (2008)	Soc	1	1,2,3,4,5,6,7	3
Lindsey, L. (1997)	Soc	1	1,2,5,6	7
Lips, H.M. (2005)	Psych	2	1,6	5
Lips, H.M. (2006)	Psych	2	1,3,5,7	4
Renzetti, C.M., & Canary, D.J. (2000)	Soc	2	2,4,5	1
Ridley, E.A. (2005)	Psych	3		12
Smith, B. (2007)	Psych	3		11

Note: Attitude = 1-5 on our Likert scale. 1 is extremely hostile, 5 is extremely positive. Types of Errors: 1 = biological determinism, 2 = naturalistic fallacy, 3 = mechanical determinism, 4 = moralistic fallacy, 5 = conservative agenda, 6 = ad hominem, 7 = institutionalized fallacy. Popularity refers to the textbook's student usage.

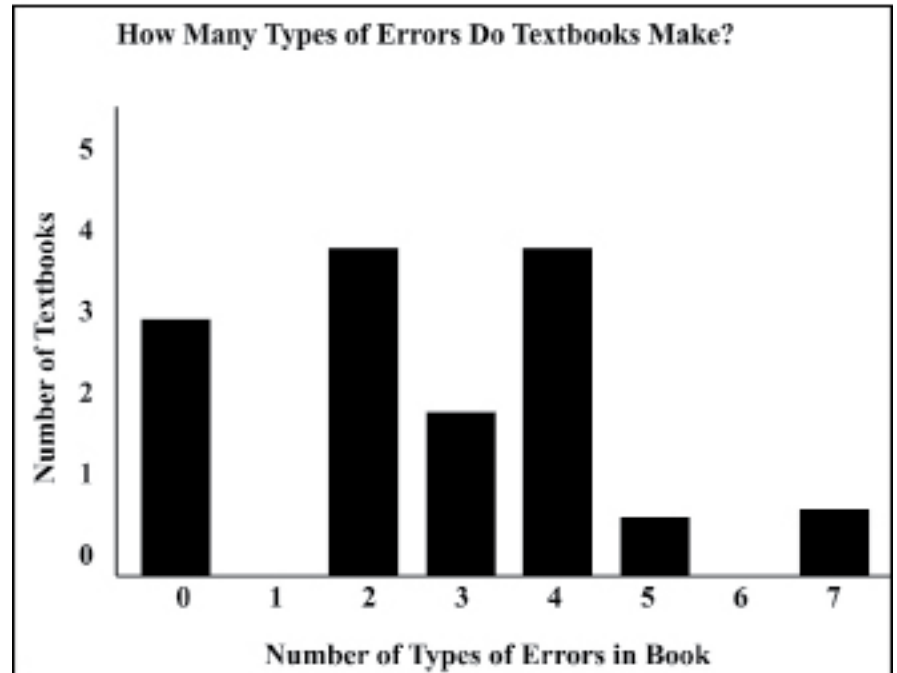


Fig. 5. The number of types of errors in a textbook is listed on the x-axis, while the number of books is listed on the y-axis.

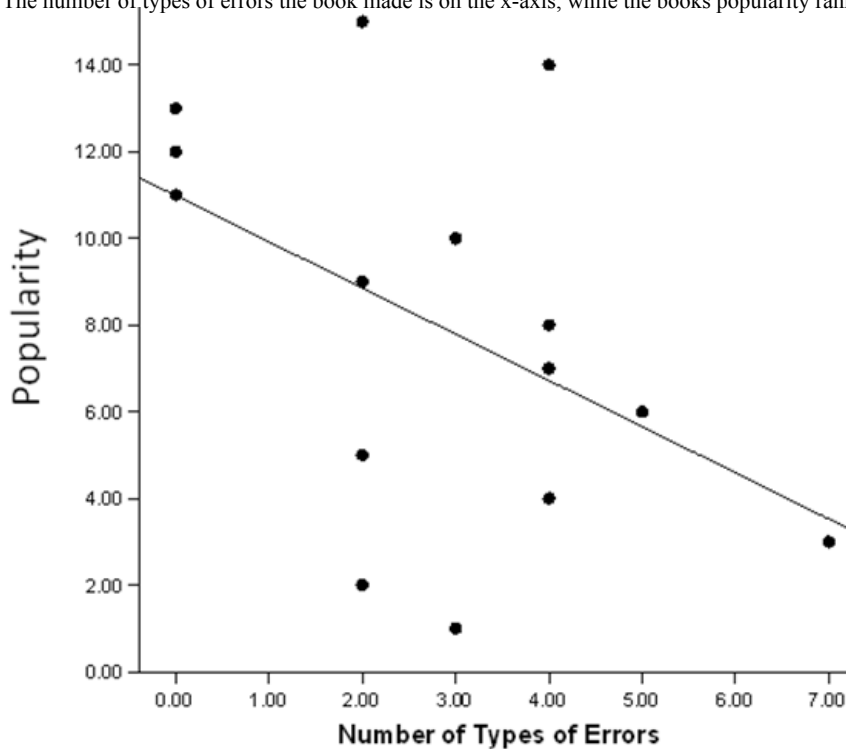
We began our analysis by tabulating the number of types of errors made in each textbook and ranking their attitude toward ET (P1). As predicted, most of the textbooks made multiple types of errors (see figure 5). Of our sample, only three made no types of errors, while twelve made two or more, and one made all seven of the coded types of errors ($M = 2.8$, $Med = 3$, $SD = 1.97$). Most of the textbooks also displayed a hostile attitude toward ET ($M = 1.87$, $SD = .64$). Four textbooks displayed extremely hostile attitudes, while the most favorable attitude displayed was neutral and occurred in three textbooks (see section V.5).

We then examined each of our remaining predictions. As predicted (P2), textbooks with higher hostility rankings (lower score on the attitude scale) made more errors ($r_s = -.59$, $p = .018$). This relationship was statistically significant.

Also as predicted (P3), textbooks with higher student usage made more errors (See figure 6) ($r_s = -.42$, $p = .11$). This relationship was not quite significant.

Finally, as predicted (P4), sociology textbooks averaged more types of errors (see figures 7 and 8) (sociology: $M = 3.83$, $SD = 1.94$; psychology: $M = 2.11$, $SD = 1.76$). Specifically, more sociology books contained types of errors 1, 2, 4, 5, and 6 (see table 2). A large disparity is shown for types of errors 2, 4, and 5, as expected from our historical analysis of sociology's relationship with ET. Sociology textbooks also showed higher levels of hostility ($M = 1.5$) than psychology textbooks ($M = 2.1$).

Fig. 6. The number of types of errors the book made is on the x-axis, while the books popularity ranking is on the y-axis.



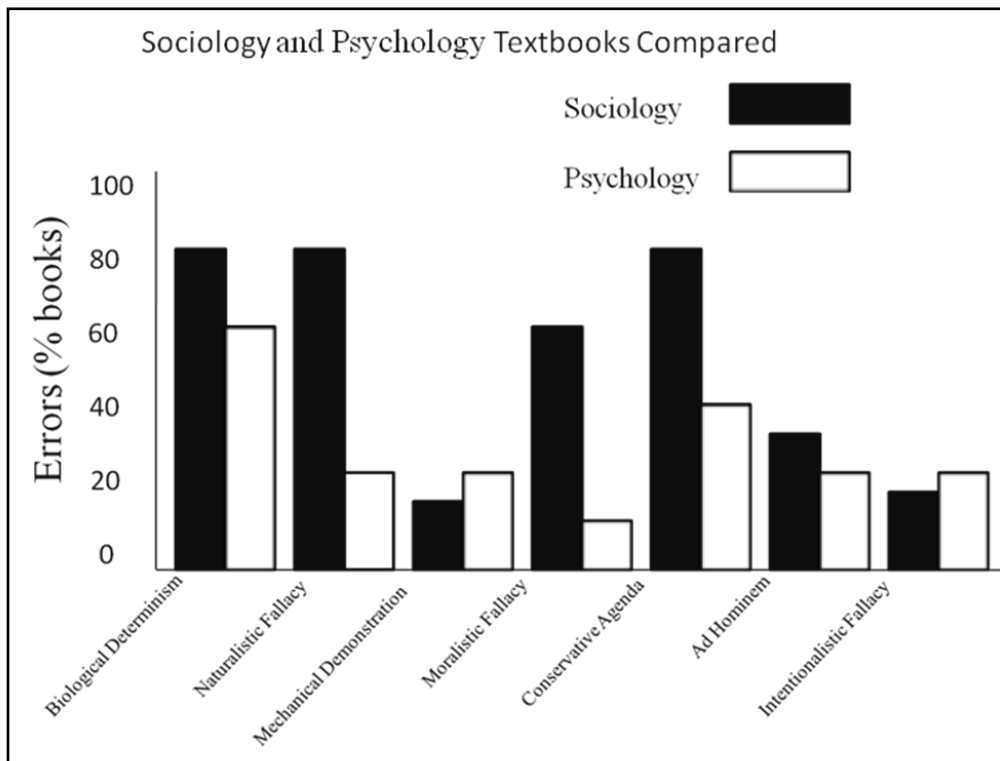


Fig. 7. The specific error is listed on the x-axis, while the percentage of books making the error is on the y-axis. The textbooks are split between sociology and psychology for comparison.

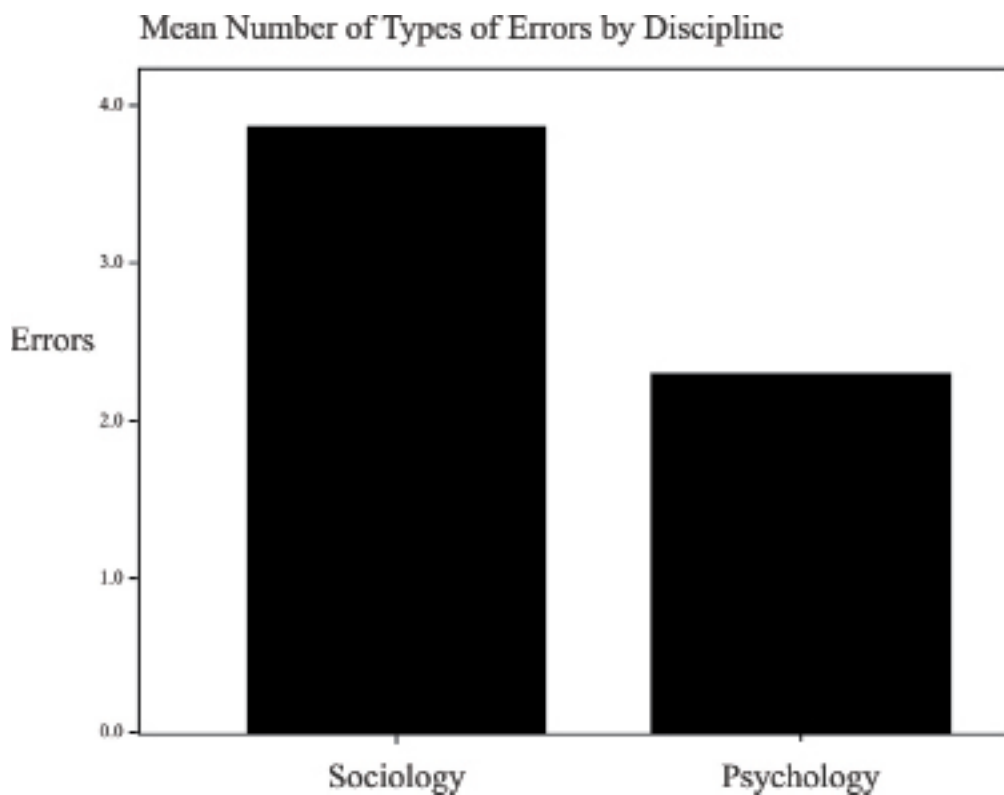


Fig. 8. Comparison of the mean number of errors made by sociology and psychology textbooks.

VII Specific Discussion

ET provides a powerful metatheory for the social sciences because of its unique ability to explain many components of human cognition and behavior. We believe that much of the current resistance to ET stems from misunderstandings rather than willful negligence and distortion. In this study, we developed a model to explain this phenomenon, hoping that knowledge of its causes might help stop its perpetuation. Consistent with Cornwell et al. (2005) and Machalek and Martin (2006), we found that textbook representations of ET were hostile and full of various types of errors. Importantly, we found both that more popular textbooks make more types of errors and that more hostile textbooks make more types of errors. This provides strong support for our general model and also for our belief that hostility toward ET is based primarily on misunderstanding rather than willful distortion.

Our model can also clarify the types of errors expected to occur in different disciplines, as shown by our results. For example, the types of errors made by sociology textbooks are not random, but rather related to certain ideological predilections. Moral/political factors play a large role in sociology and the errors that sociology textbooks made are clustered around these concerns (see figure 7). Interestingly, the types of errors made more by psychology textbooks are related to specific concerns expected from psychologists, including empirical rigor and attention to proximate (psychological) behavioral mechanisms. This suggests that ETs should address discipline-specific concerns in an effort to facilitate understanding. It also suggests that our model could be refined by adding more antecedent factors.

In future research, we plan to improve our attitude rankings by having undergraduate students, blind to our hypotheses, read and code appropriate textbook passages. We also plan to study the long-term effects of exposure to different textbooks. For example, does the incoming sociology student have a more favorable attitude toward ET than a graduating sociology student? Does this process intensify in graduate school? And if it

does, are the causes the same? Another interesting question is whether the distortions of ET are tracable to only a few scholarly sources or whether they are widely dispersed. Cornwell et al. (2005) began this process by looking at which scholars were cited in the ET sections of introductory psychology textbooks. They found a few scholars had undue influence, and we suspect that the same is true in most textbooks.

VIII General Discussion

Denis Diderot, an Enlightenment philosopher, explained that “all things must be examined, debated, investigated without exception and without regard for anyone’s feelings” (Diderot, 2008). His sentiment nicely summarizes the spirit of scientific inquiry, a spirit most people consider vital for political, intellectual, and personal development. Yet, as our results show, this spirit has been thwarted in the most important area of all: the social sciences. Regardless of political interests or ideological commitments, few would argue that this should be applauded. What is worse, ET is not an abstract theory of interest to academics alone; it has ramifications that touch aspects of everyone’s lives (Wilson, 2007). Without lucid, error-free presentations of ET, thousands of students are introduced to a distorted caricature and are unable to accurately and independently assess the value of ET. Even those who most oppose ET should lament this because it curdles conversation and disallows legitimate argument. The best way to discover the shortcomings of a theory is to allow as many scholars as possible a fair chance to scrutinize it. Science at its best is a truly communal undertaking; theories are erected and refined by myriad people and should be blind to individual concerns or prejudices. The integrity of this undertaking is damaged when biases are allowed to seep in that affect the presentation of scientific information. Finally, it is important to iterate that science itself is neutral about *what ought to be done in the world*. Science can only inform us about the way things *are*.

Appendix A.

What do introductory evolutionary psychology textbooks say? A small, qualitative example of how evolutionary theory is misrepresented in mainstream textbooks on sex/gender.

Note: All mainstream textbook quotes are taken from textbooks which were included in our sample. Rebuttal quotes are taken from nine of the most popular introductory evolutionary psychology textbooks. A full list of all textbooks used appears at the end of the appendix.

What the 'Mainstream' Textbooks Say Genetic/Biological Determinism	What Evolutionary Theorists Actually Think, as Indicated by Introductory Evolutionary Psychology Textbooks
<p>"Thus males are hardwired genetically to be promiscuous sexual predators, ever on the prowl for new potential sexual conquests, whereas females have a built-in biological tendency toward monogamy, fantasies of romantic love and commitment coupled with sexual behavior, and a certain sexual reticence that can be overcome only by chivalric male promises of fealty and fidelity" (Kimmel, 2008, p. 24).</p> <p>"According to this approach [the evolutionary approach], the power differences between the sexes are not the result of learning or culture but the natural and inevitable outcome of our genetic heritage" (Lips, 2005, p. 75).</p> <p>"The theory [sociobiology] implies that such human social behaviors as war, rape, and racism have been "built in" through our evolution and that it is impossible to make fundamental changes in the relations between the sexes" (Lips, 2005, p. 77).</p> <p>"Essentialism also implies that patriarchy is the only system that's ever been since what makes something 'essential' is its universal and inescapable nature" (Johnson, 2005, p. 52).</p> <p>"Body-machine models of gender assume that the machine runs by itself: that biological causation is independent of society" (Connell, 2002, p. 32).</p> <p>"Evolutionary psychology holds the essentialist view that some 'essence' or underlying</p>	<p>"Much of the resistance to applying evolutionary theory to the understanding of human behavior stems from the misconception that evolutionary theory implies genetic determinism. Contrary to this misunderstanding, evolutionary theory in fact represents a truly interactionist framework" (Buss, 2008, p. 18).</p> <p>"... The genetic fallacy is the mistaken idea that genes are destiny, that genetic traits cannot be changed" (Gaulin and McBurney, 2004, p. 78).</p> <p>"The idea of genes controlling behavior suggests the image of the robot-welders nowadays used in car factories. . . Robot welders . . . are computer controlled, and execute a precise and unchanging sequence of actions. They respond to their programming very much as a puppet responds to the person pulling the strings. But this image of puppet-on-a-string control by genes is as wrong as the view that the physical form of an organism is preformed and mapped by its genes" (Badcock, 2000, p. 65).</p> <p>"Evolutionary psychologists firmly reject both genetic determinism and environmental determinism and, instead, contend that both genes and environment must be considered in understanding the human mind" (Rossano, 2003, p. 28).</p> <p>"Human behavior and psychology are the products of evolution and can be investigated</p>

<p>biological component makes men and women different" (Brannon, 2007, p. 1).</p>	<p>profitably using an evolutionary framework, although any approach that ignores the fact that culture is an integral part of the biological process will, of necessity, be incomplete" (Barrett, Dunbar, & Lycett, 2002, p. 21).</p> <p>"When evolutionary psychologists discuss the effect of genes on psychology they think in terms of predispositions rather than causes. Genes do not cause men to commit violent acts; if they do anything they <i>predispose</i> men to such acts; whether men actually carry them out will depend on their life-histories, cultural contexts and other genetic predispositions (such as conscience)" (Workman and Reader, 2004, p. 25).</p>
Naturalistic Fallacy	Evolutionary Theorists' Response
<p>"Second, and perhaps more importantly, this argument implies that the contemporary Western model of gender relations is the only correct or appropriate model because it is natural and adaptive . . ." (Renzetti & Curran, 2003, p. 58).</p> <p>"Although Buss occasionally says that he is not justifying those kinds of behavior and acknowledges that there is some variability within the sexes, he spends far more time and energy explaining why these patterns are necessary to preserve the human species" (Caplan & Caplan, 1999, p. 18).</p> <p>"Sociobiology provides a rationalization for continuing the patriarchal system . . ." (Lindsey, 1997, p. 47).</p> <p>"And if we believe in evolution, essentialism backs us into the corner of arguing that privilege and oppression are actually a positive adaptation, that societies organized in this way will thrive more than those that aren't" (Johnson, 2005, p. 52).</p>	<p>"Most important, discoveries in a Darwinian world about the natures of the sexes have no direct implications whatever for how they should live and relate to one another" (Bridgeman, 2003, p. 21).</p> <p>"Examples can be found in nature of almost any conceivable social system or pattern of individual behavior, but this does not mean that these are good or desirable patterns for human behavior. Who, for example, would hold up the dung beetle as an example of an ideal natural diet for humans" (Palmer and Palmer, 2002, p. 12)?</p> <p>"The naturalistic fallacy is a straightforward concept: one cannot logically deduce moral tenets from the <i>natural</i> state of the world. In other words, recognizing that something is natural does not necessarily imply that it is <i>good</i> or <i>moral</i>. It is often said that the <i>is</i> of nature should not be confused with the <i>ought</i> of morality. Most evolutionary biologists are quite clear on this issue" (Rossano, 2003, p. 49).</p> <p>"Evolutionary psychology explains behavior; it does not justify it. In a nutshell, the naturalistic fallacy confuses <i>is</i> with <i>ought</i>. It</p>

	confuses the situation that exists in the world with our moral judgment about that situation" (Gaulin & McBurney, 2004, p. 23).
Political Ramifications	Evolutionary Theorists' Response
<p>"Evolutionary biologists since Darwin have abandoned the more obviously political intentions of the social Darwinists, but the development of a new field of sociobiology in the 1970s revived evolutionary arguments" (Kimmel, 2008, p. 24).</p> <p>"It is hardly a coincidence that this depiction of prehistoric social life bears an uncanny resemblance to the traditional, middle-class nuclear family of Western Societies" (Renzetti & Curran, 2003, p. 57).</p> <p>"More importantly, biological determinism ushers in social and political conservatism" (Lindsey, 1997, p. 47).</p> <p>"Biological determinism and reductionism have been especially rampant in the discussion of gender and race differences, and they have been the basis for conservative views about the proper role for women and racial-ethnic groups in society" (Anderson, 2006, p. 25).</p>	<p>"Many believed that applying biological principles to humans was a way of advocating the doctrine of genetic determinism and therefore supporting the maintenance of the status quo. In the case of the industrialist Social Darwinists, the Eugenists, and many others who distorted evolutionary theory to suit their own agendas, the latter charge was certainly true" (Palmer & Palmer, 2002, p. 12).</p> <p>"Evolutionary psychology is controversial in some circles. Some psychologists oppose it strongly, others are skeptical, and others are just becoming aware of its existence. There are a number of reasons for this state of affairs, including the indisputable fact [sic] some people have seriously misinterpreted evolutionary ideas to excuse such evils as racism, sexism, and social injustice in general. Make no mistake: We reject repression in all its many forms" (Gaulin and McBurney, 2004, p. 23).</p> <p>"If there is a universal human nature with an evolutionary (and therefore genetic) foundation, then is evolutionary psychology providing scientific endorsement to social inequity? For example, suppose we find evidence that men and women have different evolved tendencies, with men being more aggressive and competitive and women more nurturant and verbal. Does this mean that we are providing scientific evidence that men should be soldiers and CEOs and women should be nurses and teachers (or stay-at-home moms)? Evolutionary psychologists would respond with an emphatic 'no' . . ." (Rossano, 2003, p. 48).</p> <p>"In a way this [that evolutionary theory defends the status quo] is a leftover reaction to the failed movement of social Darwinism. The</p>

	<p>fallacy in this stance is similar to that of genetic determinism in dealing with diseases or disabilities, because genes work in environments, and only by understanding the genes can we change our environments in such a way that our genes work for us rather than against us. By knowing how we are made we can improve the quality of life" (Bridgeman, 2003, p. 19).</p> <p>"An exposé of the political abuse of evolutionary ideas may suggest that there is some sort of natural and therefore suspicious affinity between Darwinism and unpalatable political philosophies. Here, we should be wary. Scientific ideas can be taken up into pre-existing debates without inspiring them, and indeed with little logical connection to them. Sexism, racism, militarism, and imperialism, for example, all existed before the Darwinian revolution and will probably exist for a long time thereafter" (Cartwright, 2000, p. 337).</p> <p>"Knowledge about our evolved psychological adaptations along with the social inputs that they were designed to be responsive to, far from dooming us to an unchangeable fate, can have the liberating effect of changing behavior in areas in which change is desired" (Buss, 2008, p. 19).</p>
Miscellaneous	Evolutionary Theorists' Response
<p>"Most sociobiologists ignore the chimpanzee because she is notoriously promiscuous" (Lindsey, 1997, p. 47; for the same argument see Hyde, 2007, p. 52).</p>	<p>Total pages textbook devotes to chimpanzee as summed from index:</p> <p>Badcock, 2000: 5 pages Barrett, Dunbar, & Lycett, 2002: 7 pages Bridgeman, 2003: 13 pages Buss, 2008: 11 pages Cartwright, 2000: 7 pages Gaulin & McBurney, 2004: 0 pages Palmer and Palmer, 2002: 1 page Rossano, 2003: 57 pages Workman & Reader, 2004: 3 pages</p>

List of Evolutionary Psychology Textbooks Used

- Badcock, C. (2000). *Evolutionary psychology: A critical introduction*. Malden, MA: Polity.
- Barrett, L., Dunbar, R., & Lycett, J. (2002). *Human evolutionary psychology*. Princeton, NJ: Princeton University Press.
- Bridgeman, B. (2003). *Psychology & evolution: The origins of mind*. Thousand Oaks, CA: Sage.
- Buss, D. M. (2008). *Evolutionary psychology: The new science of the mind* (3rd ed.). Boston: Pearson.
- Cartwright, J. (2000). *Evolution and human behavior: Darwinian perspectives on human nature*. Cambridge, MA: Bradford.
- Gaulin, S. J. C., & McBurney, D. H. (2004). *Evolutionary psychology*. Upper Saddle River, NJ: Pearson.
- Palmer, J. A., & Palmer, L. K. (2002). *Evolutionary psychology: The ultimate origins of human behavior*. Boston: Pearson.
- Rossano, M. J. (2003). *Evolutionary psychology: The science of human behavior and evolution*. Danvers, MA: John Wiley.
- Workman, L., & Reader, W. (2004). *Evolutionary psychology: An introduction*. Cambridge, MA: Cambridge University Press.

List of 15 Most Popular Textbooks on Sex/Gender (Data Calculated from MIR)

- Anderson, M. (2006). *Thinking about women: Sociological perspectives on sex and gender* (7th ed.). Boston: Allyn and Bacon.
- Branon, L. (2007). *Gender: Psychological perspectives* (5th ed.). Boston: Allyn and Bacon.
- Caplan, P. J., & Caplan, J. B. (1999). *Thinking critically about research on sex and gender*. Boston: Allyn and Bacon.
- Connell, R. W. (2002). *Gender*. Malden, MA: Polity.
- Crawford, M., & Unger, R. K. (2004). *Women and gender: A feminist psychology* (4th ed.). Boston: McGraw-Hill.
- Hegelson, V. S. (2005). *The psychology of gender* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Hyde, J. S. (2007). *Half the human experience: The psychology of women* (7th ed.). Boston: Houghton Mifflin.
- Johnson, A. G. (2005). *Gender knot: Unraveling our patriarchal legacy* (2nd ed.). Philadelphia: Temple University Press.
- Kimmel, M. S. (2008). *The gendered society* (3rd ed.). New York: Oxford University Press.
- Lindsey, L. (1997). *Gender roles: A sociological perspective* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Lips, H. M. (2005). *A new psychology of women: Gender, culture, and ethnicity* (3rd ed.). Boston: McGraw-Hill.
- Lips, H. M. (2008). *Sex & gender: An introduction* (6th ed.). Boston: McGraw-Hill.
- Renzetti, C. M., & Curran, D. J. (2003). *Women, men, and society* (5th ed.). Boston: Allyn and Bacon.
- Rider, E. A. (2005). *Our voices: Psychology of women* (2nd ed.). Hoboken, NJ: Wiley.
- Smith, B. (2007). *The psychology of sex and gender*. Boston: Pearson.

REFERENCES

- Alcock, J. (2001). *The triumph of sociobiology*. New York: Oxford University Press.
- Alcock, J. (2005). *Animal Behavior* (8th ed.). Sunderland, MA: Sinauer.
- Alford, J. R., & Hibbing, J. R. (2004). The origin of politics: An evolutionary theory of political behavior. *Perspectives on Politics*, 2, 707-723.
- Alford, J. R., Funk, C. L., & Hibbing, J. R. (2005). Are political orientations genetically transmitted? *American Political Science Review*, 99, 153-167.
- Andersson, M. (1994). *Sexual selection*. Princeton, NJ: Princeton University Press.
- Andersson, M., & Iwasa, Y. (1996). Sexual selection. *Trends in Ecology and Evolution*, 11, 53-58.
- Atran, S. (2002). *In gods we trust: The evolutionary landscape of religion*. New York: Oxford University Press.
- Atran, S. (2005). Adaptationism for human cognition: Strong, spurious or weak? *Mind & Language*, 20, 39-67.
- Barash, D. P., & Barash N. R. (2005). *Madame Bovary's ovaries: A Darwinian look at literature*. New York: Delacorte Press.
- Barber, N. (2004). *Kindness in a cruel world: The evolution of altruism*. New York: Amherst.
- Barkow, J., Cosmides, L., & Tooby, J. (1992). *The adapted mind*. New York: Oxford University Press.
- Benjafield, J. G. (2005). A history of psychology (2nd ed.). New York: Oxford University Press.
- Betzig, L. (1986). *Despotism and differential reproduction: A Darwinian view of history*. New York: Aldine.
- Betzig, L. (1992). Roman polygyny. *Ethology and Sociobiology*, 13, 309-349.
- Betzig, L. (2005). Politics as sex: The Old Testament case. *Evolutionary Psychology*, 3, 326-346.
- Boone, J. L. (1986). Parental investment and elite family structure in preindustrial states: A case study of medieval-early modern Portuguese genealogies. *American Anthropologist*, 88, 859-878.
- Boyer, P. (2001). *Religion explained: The evolutionary origins of religious thought*. New York: Basic Books.
- Boyer, P., and Bergstrom, B. (2008). Evolutionary perspectives on religion. *Annual Review of Anthropology*, 37, 111-130.
- Brown, D. E. (2004). Human universals, human nature, & human culture. *Daedalus*, 133, 47-54.
- Browne, K. R. (2002). *Biology at work: Rethinking sexual equality*. New Brunswick, NJ: Rutgers University Press.
- Buller, D. (1999). DeFreuding evolutionary psychology: Adaptation and human motivation. In V. G. Hardcastle (Ed.), *Where biology meets psychology: Philosophical essays* (pp. 99-114). Cambridge, MA: MIT Press
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12, 1-49.
- Buss, D. M. (1995). Evolutionary psychology: A new paradigm for psychological science. *Psychological Inquiry*, 6, 1-30.
- Buss, D. M. (2003). *The evolution of desire: Strategies of human mating* (2nd ed.). New York: Basic Books.
- Buss, D. M., Haselton, M. G., Shackelford, T. K., Bleske, A. L., & Wakefield, J. C. (1998). Adaptations, exaptations, and spandrels. *American psychologist*, 53, 533-548.

- Carmen, I. H. (2007). Genetic configurations of political phenomena: New theories, new methods. *The Annals of the American Academy of Political and Social Science*, 614, 34-55.
- Chagnon, N. A. (1988). Life histories, blood revenge, and warfare in a tribal population. *Science*, 238, 985-992.
- Chomsky, N. (1959). A review of B. F. Skinner's *Verbal Behavior*. *Language*, 35, 26-58.
- Clark, R.D., III, & Hatfield, E. (1989). Gender differences in receptivity to sexual offers. *Journal of Psychology & Human Sexuality*, 2, 39-55.
- Clutton-Brock, T. H. (1991). *The evolution of parental care*. Princeton, NJ: Princeton University Press.
- Cornwell, R. E., Palmer, C., Guinther, P. M., & Davis, H. P. (2005). Introductory psychology texts as a view of sociobiology/evolutionary psychology's role in psychology. *Evolutionary Psychology*, 3, 355-374.
- Crawford, C. (2000). Evolutionary psychology: Counting babies or studying information processing mechanisms. *Annals-New York Academy of Sciences*, 907, 21-38.
- Crawford, C. B. (1993). The future of sociobiology: Counting babies or studying proximate mechanisms. *Trends in Ecology and Evolution*, 8, 183-187.
- Darwin, C. (1871). *The descent of man, and selection in relation to sex*. London: John Murray.
- Darwin, C. (1958). *On the origin of species by means of natural selection*. New York: New American Library. (Original work published 1859)
- Dawkins, R. (1976). *The selfish gene*. New York: Oxford University Press.
- De Waal, F. (1996). *Good natured: The origins of right and wrong in humans and other animals*. Cambridge: Harvard University Press.
- Degler, C. N. (1991). *In search of human nature: The decline and revival of Darwinism in American social thought*. New York: Oxford University Press.
- Diamond, J. (1999). *Guns, germs, and steel: The fates of human societies*. New York: W. W. Norton.
- Diderot, D. (2008, August 7). In *Wikipedia, The Free Encyclopedia*. Retrieved August 15, 2008, from http://en.wikipedia.org/w/index.php?title=Denis_Diderot&oldid=230430382
- Dugatkin, L. A. (2006). *The altruism equation: Seven scientists search for the origins of goodness*. Princeton, NJ: Princeton University Press.
- Dunbar, R. I. M. (1995). The mating system of callitrichid primates: I. Conditions for the coevolution of pair bonding and twinning. *Animal Behaviour*, 50, 1057-1070.
- Durkheim, E. (1982). *The rules of sociological method and selected texts on sociology and its method* (W. D. Halls, Trans.). New York: The Free Press. (Original work published 1895)
- Eagly, A. H., Wood, W. (1999). The origins of sex differences in human behavior: Evolved dispositions versus social roles. *American Psychologist*, 54, 408-423.
- Ellis, L. (1977). The decline and fall of sociology, 1975-2000. *The American Sociologist*, 12, 56-66.
- Ellis, L. (1995). Dominance and reproductive success among nonhuman animals: A cross-species comparison. *Ethology and Sociobiology*, 16, 257-333.
- Ellis, L. (1996). A discipline in peril: Sociology's future hinges on curing its biophobia. *The American Sociologist*, 27, 21-41.

- Fausto-Sterling, A. (1992). *Myths of gender: Biological theories about men and women* (2nd ed.). New York: Basic Books.
- Flaxman, S. M., & Sherman, P. W. (2000). Morning sickness: A mechanism for protecting mother and embryo. *Quarterly Review of Biology*, 75, 113-148.
- Flaxman, S. M., & Sherman, P. W. (2008). Morning sickness: Adaptive cause or nonadaptive consequence of embryo viability? *The American Naturalist*, 172, 54-62.
- Gat, A. (2006). *War in human civilization*. New York: Oxford University Press.
- Geary, D. C. (1998). *Male/female: The evolution of human sex differences*. Washington, DC: American Psychological Association.
- Gerber, L. M., Williams, G. C., & Gray, S. J. (1999). The nutrient-toxin dosage continuum in human evolution and modern health. *Quarterly Review of Biology*, 74, 273-289.
- Goetz, A. T., & Shackelford, T. K. (2006). Modern applications of evolutionary theory to psychology: Key concepts and clarifications. *American Journal of Psychology*, 119, 567-584.
- Gottschall, J. (2008). *The rape of Troy: Evolution, violence, and the world of Homer*. New York: Cambridge University Press.
- Gottschall, J., & Wilson, D. S. (2005). *The literary animal: Evolution and the future of narrative*. Evanston, IL: Northwestern University Press.
- Gould, S. J. (1997, June 26). Evolution: The pleasures of pluralism, *The New York Review of Books*, pp. 47-52.
- Griffin, A. S., & West, S. A. (2002). Kin selection: Fact and fiction. *Trends in ecology and evolution*, 17, 15-21.
- Haidt, J. (2007). The new synthesis in moral psychology. *Science*, 316, 998-1002.
- Haidt, J. (2008). Morality. *Perspectives on Psychological Science*, 3, 65-72.
- Halpern, D. F. (2000). *Sex differences in cognitive abilities* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hamilton, W. D. (1964). The genetical evolution of social behavior. *Journal of Theoretical Biology*, 7, 1-52.
- Hart, M. H. (2007). *Understanding human history: An analysis including the effects of geography and differential evolution*. Augusta, GA: Washington Summit.
- Hauser, M. (2006). *Moral minds: How nature designed our universal sense of right and wrong*. New York: Ecco.
- Hofstadter, R. (1992). *Social Darwinism in American thought*. Boston: Beacon Press. (Original work published 1942)
- Hubbard, R. (1997). *The politics of women's biology*. New Brunswick, NJ: Rutgers University Press.
- Hunt, M. (2007). *The story of psychology* (2nd ed.). New York: Anchor.
- Johnson, D. D. P. (2004). *Overconfidence and war: The havoc and glory of positive illusions*. Cambridge: Harvard University Press.
- Jones, G. (1980). *Social Darwinism and English thought: The interaction between biological and social theory*. Atlantic Highlands, NJ: Humanities Press.
- Jones, O. D., & Goldsmith, T. H. (2005). Law and behavioral biology. *Columbia Law Review*, 105, 405-502.
- Kanazawa, S. (2001). De gustibus est disputandum. *Social Forces*, 79, 1131-1162.
- Kanazawa, S. (2007). The evolutionary psychological imagination: Why you can't get a date on Saturday night and why most suicide bombers are Muslim. *Journal of Social, Evolutionary, and Cultural Psychology*, 1, 7-17.

- Kelves, D. (1985). *In the name of eugenics*. New York: Knopf.
- Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflects sex differences in human reproductive strategies. *Behavioral and Brain Sciences*, 15, 75-133.
- Kenrick, D. T., Keefe, R. C., Gabrielidis, C., & Cornelius, J. S. (1996). Adolescents' age preferences for dating partners: Support for an evolutionary model of life-history strategies. *Child Development*, 67, 1499-1511.
- Ketelaar, T. & Ellis, B. J. (2000). Are evolutionary explanations unfalsifiable? Evolutionary psychology and the Lakatosian philosophy of science. *Psychological Inquiry*, 11, 1-21.
- Kimura, D. (1999). *Sex and cognition*. Cambridge: MIT Press.
- Kirkpatrick, L. A. (2005). *Attachment, evolution, and the psychology of religion*. New York: Guilford Press.
- Kurzban, R., Tooby, J., & Cosmides, L. (2001). Can race be erased? Coalitional computation and social categorization. *Proceedings of the National Academy of Sciences*, 98, 15387-15392.
- Larson, E. J. (2004) *Evolution: The remarkable history of a scientific theory*. New York: Modern Library.
- Le Boeuf, B. J. (1974). Male-male competition and reproductive success in elephant seals. *Integrative and comparative biology*, 14, 163-176.
- Lehmann, L., & Keller, L. (2006). The evolution of cooperation and altruism: A general framework and a classification of models. *Journal of Evolutionary Biology*, 19, 1365-1376.
- Lipset, S. M. (1994). The state of American sociology. *The Sociological Forum*, 9, 199-220.
- Lopreato, J., & Crippen, T. (1999). *Crises in sociology: The need for Darwin*. New Brunswick, NJ: Transaction.
- Low, B. S. (2000). *Why sex matters: A Darwinian look at human behavior*. Princeton, NJ: Princeton University Press.
- Marlowe, F. W. (1998). The nobility hypothesis: The human breast as an honest signal of residual reproductive value. *Human Nature*, 9, 263-271.
- Marlowe, F. W. (2004). Mate preferences among Hadza hunter-gatherers. *Human Nature*, 15, 365-376.
- Martin, M. W., & Machalek, R. (2006, August). *Exposing a false divide: Confronting "bioilliteracy" and "biophobia" in introductory sociology textbooks*. Paper presented at the 101st Annual Meeting of the American Sociological Association, Montreal, Quebec.
- Massey, D. S. (2002). A brief history of human society: The origin and role of emotion in social life. *American Sociological Review*, 67, 1-29.
- Mayr, E. (1985). *The growth of biological thought: Diversity, evolution, and inheritance*. Cambridge: Belknap Press of Harvard University Press.
- McBurney, D. H., Zapp, D. J., & Streeter, S. A. (2005). Preferred number of sexual partners: Tails of distributions and tales of mating systems. *Evolution and Human Behavior*, 26, 271-278.
- McNamee, D. (2001). Tackling venomous snake bites worldwide. *Lancet*, 357(9267), 1680.
- Milinski, M., Pfuger, D., Külling, D., & Kettler, R. (1990). Do sticklebacks cooperate repeatedly in reciprocal pairs? *Behavioral Ecology and Sociobiology*, 27, 17-21.
- Møller, P. M., & Thornhill, R. (1998). Male parental care, differential parental investment by females and sexual selection. *Animal Behavior*, 55, 1507-1515.
- National Transportation Safety Board. (1999). *Annual report to Congress*. Washington, D.C.

- Neisser, U. (1967). *Cognitive psychology*. New York: Appleton-Century-Crofts.
- Petrie, M., & Halliday, T. (1994). Experimental and natural changes in the peacock's (*Pavo cristatus*) train can affect mating success. *Behavioral Ecology and Sociobiology*, 35, 213-217.
- Plotkin, H. (2004). *Evolutionary thought in psychology: A brief history*. Malden, MA: Blackwell.
- Resnik, D. (1997). Adaptionism: Hypothesis or heuristic. *Biology and Philosophy*, 12, 39-50.
- Richards, R. J. (1987). *Darwin and the emergence of evolutionary theories of mind and behavior*. Chicago: University of Chicago Press.
- Rose, H., & Rose, S. (2000). *Alas, poor Darwin: Arguments against evolutionary psychology*. New York: Harmony Books.
- Rushton, J. P., & Jensen, A. R. (2005). Wanted: More race realism, less moralistic fallacy. *Psychology, Public Policy, and Law*, 11, 328-336.
- Sanderson, S. K., & Ellis, L. (1992). Theoretical and political perspectives of American sociologists in the 1990s. *The American Sociologist*, 23, 26-42.
- Sanderson, S. K. (2001). *The evolution of human sociality: A Darwinian conflict perspective*. Lanham, MD: Rowman & Littlefield.
- Schino, G. (2007). Grooming and agonistic support: A meta-analysis of primate reciprocal altruism. *Behavioral Ecology*, 18, 115-120.
- Schmitt, D. P., & 118 members of the International Sexuality Description Project. (2003). Universal sex differences in the desire for sexual variety: Tests from 52 nations, 6 continents, and 13 islands. *Journal of Personality and Social Psychology*, 85, 85-104.
- Schmitt, D. P., & Pilcher, J. J. (2004) Evaluating evidence of psychological adaptation: How do we know one when we see one? *Psychological Science*, 15, 643-649.
- Segreståle, U. (2000). *Defenders of the truth: The battle for science in the sociobiology debate and beyond*. New York: Oxford University Press.
- Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 69, 99-118.
- Skinner, B. F. (1974). *About behaviorism*. New York: Knopf.
- Smith, E. A. (2000). Three styles in the evolutionary analysis of human behavior. In L. Cronk, W. Irons, & N. Chagnon (Eds.), *Human behavior and adaptation: An anthropological perspective* (pp. 27-46). New York: Aldine De Gruyter.
- Smith, E. A., Borgerhoff, M., & Hill, K. (2001). Controversies in the evolutionary social sciences: A guide to the perplexed. *Trends in Ecology and Evolution*, 16, 128-135.
- Sowell, T. (1987). *A conflict of visions*. New York: William Morrow.
- Strassman, B. (1997). Polygyny is a risk factor for child mortality among the Dogon. *Current Anthropology*, 38, 688-695.
- Symons, D. (1979). *The evolution of human sexuality*. New York: Oxford.
- Taylor, C. R., & Rowntree, V. J. (1973). Temperature regulation and heat tolerance in running cheetahs: A strategy for sprinters? *American Journal of Physiology*, 224, 848-851.
- Thayer, B. (2000). Bringing in Darwin: Evolutionary theory, realism, and international politics. *International Security*, 25, 124-151.
- Tinbergen, N. (1963). On aims and methods of ethology. *Zeitschrift für Tierpsychologie*, 20, 410-433.
- Tooby, J., & Cosmides, L. (2005). Conceptual foundations of evolutionary psychology. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 5-67). Hoboken, NJ: Wiley.

- Trivers, R. L. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology*, 46, 35-57.
- Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man 1871-1971* (pp. 136-179). Chicago: Aldine.
- Uno, G. E., & Bybee, R. W. (1994). Understanding the dimensions of biological literacy. *Bio Science*, 44, 553-557.
- van den Berghe, P. L. (1990). Why most sociologists don't (and won't) think evolutionarily. *Sociological Forum*, 5, 173-185.
- Vernon, L. L., & Berenbaum, H. (2002). Disgust and fear in response to spiders. *Cognition and Emotion*, 16, 809-830.
- Wagner, J. D., Flinn, M. V., & England, B. G. (2002). Hormonal responses to competition among male coalitions. *Evolution and Human Behavior*, 23, 437-442.
- Wilkinson, G. S. (1984). Reciprocal food sharing in the vampire bat. *Nature*, 308, 181-184.
- Williams, G. C. (1966). *Adaptation and natural selection*. Princeton, NJ: Princeton University Press.
- Wilson, D. S. (2002). *Darwin's cathedral: Evolution, religion, and the nature of society*. Chicago: University of Chicago Press.
- Wilson, D. S. (2007) *Evolution for everyone: How Darwin's theory can change the way we think about our lives*. New York: Bantam Dell.
- Wilson, E. O. (1998). *Consilience: The unity of knowledge*. New York: Vintage.
- Wilson, E. O. (2000). *Sociobiology: the new synthesis*. Cambridge, MA: Belknap Press of Harvard University Press. (Original work published in 1975)
- Winegard, B. M., & Deaner, R. O. (2008, May). *The significance of Red Sox Nation: An evolutionary perspective on vicarious identification with sports teams*. Poster presented at the 2nd Annual Meeting of the North Eastern Evolutionary Psychology Society, Manchester, NH.
- Wrangham, R. W. (1999) Evolution of coalitionary killing. *Yearbook of Physical Anthropology*, 42, 1-30.
- Wright, R. L., & Klimkowsky, R. W. Points of view: Content versus process: Is this a fair choice. *Cell Biology Education*, 4, 189-198.
- Zerjal, T., Zue, Y., Bertorelle, G., Wells, R. S., Bao, W., Zhu, S., Qamar, R., Ayub, Q., Mohyuddin, A., Fu, S., Li, P., Yuldasheva, N., Ruzibakiev, R., Xu, J., Shu, Q., Du, R., Yang, H., Hurles, M. E., Robinson, E., Gerelsaikhan, T., Dashnyam, B., Mehdi, S. Q., & Tyler-Smith, C. (2003). The genetic legacy of the Mongols. *American Journal of Human Genetics*, 72, 717-721.



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 under-represented minorities on college and university faculties.

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