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Foreword

As it celebrates its fifth anniversary, the CSU Sacramento McNair Scholars Program has begun receiving a return on its investment in future scholars through reports from former scholars of successful entry into post-baccalaureate programs. The success of these scholars builds momentum for the program, and provides a vision of what is possible to future scholars.

Though each bears the name of one individual, the articles published in this volume represent the community of individuals, including faculty mentors and McNair Program staff, who worked together to support the scholars in achieving their goals. We celebrate the achievement that this publication represents for each scholar, and look forward to receiving reports of both their expected and unexpected future achievements.

Chevelle Newsome, Ph.D.
Director
McNair Scholars Program
California's Gaming Propositions: How Has the Expansion of Gaming Rights Affected Local Communities?

John L. Ortiz

ABSTRACT

In the past twenty years, the growth of tribal casinos has given the state of California the distinction of being second only to Nevada in casino gaming operations. Upcoming state-wide propositions could potentially double the size of existing casinos in the state. Yet, there has been surprisingly little research on how legalized gaming has already affected the state of California. This study investigates the affects that California Indian gaming casinos have had on California communities. In particular, it examines how casino gambling has affected local tax revenues, bankruptcies, employment, and crime. In both cross-sectional and panel regression analysis, a modest correlation is found between Indian casinos and county employment rates. On the other hand, this researcher finds that counties with a larger casino presence experience somewhat higher crime and higher rates of personal bankruptcy. This study also finds that casinos have a positive correlation with certain categories of tax revenues and expenditures. In most cases, a stronger relationship was found when the number of Indian gaming tables, as opposed to the number of slot machines, is used as a measure of casino presence.

In the past 20 years, two very different types of gaming establishments - Indian reservation casinos and traditional "card clubs" - have battled for California's gambling dollars. There are currently 162 gaming locations in California, including card rooms, tribal casinos, horse tracks, and cruise ships. Only Nevada, which allows all classes of gaming, has more, at 334, gaming locations. Currently, there are 53,631 slot machines in California that are controlled by tribal gaming nations, as per the California Gaming Control Commission. There are also 2,638 gaming tables, such as poker and 21st century black jack, throughout the state, in both card rooms and reservation casinos.

On June 21, 2004, California Governor Arnold Schwarzenegger signed compacts with five gaming tribes, allowing them to expand their current gaming operations. The compacts allow the tribes to increase the number of slot machines in their casinos by 2000 machines (double the previous limit). In return, California will receive a $1 billion bond for transportation measures this year, and annual payments of up to $250 million per year until 2030.

In November 2004, California voters will face two propositions, each...
having the potential to vastly change the nature of gaming in the state of California, and to render these newly signed compacts null and void. These propositions, if passed, could result in the legalization of slot machines in California card clubs, or the expansion of gaming rights for tribal casinos. In either case, the California state government stands to gain - either through a tax on slot machine revenues or an increase in corporate tax revenues from gaming Indian nations.

The first of the propositions, entitled the "Gaming Revenue Act of 2004," is strongly supported by the state's horse racing and card room industries, and gives the governor of California permission to renegotiate tribal-state compacts to allow for a 25% tax on all current slot machines and gaming devices, and to force Indian reservation casinos to comply with state laws and accept state court jurisdiction. Currently, the state courts do not have jurisdiction on tribal land, and infringement on the rights of tribal courts could lead to the destruction of tribal nations' sovereignty. If the gaming tribes do not agree to this tax on slot machines and gaming devices, the proposition authorizes 16 racetracks and non-tribal gaming casinos (primarily card clubs) to operate 30,000 new slot machines or gaming devices, provided they pay a 33 percent revenue tax to fund public safety, regulatory programs, and education. Such an expansion of gaming activities to racetrack and card rooms could have a profound affect on the California economy. According to Munk (1995), slot machines in California average approximately $200 a day. If Munk's estimation is correct then, this researcher calculates, that the legalization of an additional 30,000 slot machines could generate over $700 million in tax revenue for the state.

The second proposition put forth by the Agua Caliente Band of Cahuilla Indians, entitled the "Indian Gaming Fair-Share Revenue Act of 2004" seeks to remove existing limitations on the number of slot machines each casino can operate. It also seeks to remove the two casino limitation that each tribe can operate, and allow for the legalization of Class III casino games, such as roulette and craps. This proposition would also extend the life of the renegotiated contracts from 20 to 99 years. In return, the tribal casinos would agree to a California corporate tax of about nine percent on operating revenues. This could translate into several hundred million dollars annually for the state. An approximation of actual tax revenue cannot be made because it is unknown how much Indian reservation casinos actually generate (they are not required to report their financial status to the state due to their sovereignty, however, they do report to the federal government).

If both propositions are passed, each contains a contingency plan that
would deal with any inconsistencies between the two. The Gaming Revenue Act directs the courts to adopt all provisions of both measures to the greatest extent possible. The Fair Share Revenue Act, however, simply allows for the measure with the greatest number of votes to override the other. In either case, California is likely to gain tax revenue that can fund programs, such as education, law enforcement, and transportation. On the other hand, the expansion of gaming in California may have a number of other social and economic effects on California communities.

To consider how the expansion of gaming activities in California might affect local communities, this study investigates the social and economic impact that existing Indian casinos have had on their respective communities. By observing the social and economic climate of counties over many years, both before and after casinos are constructed, this study can closely evaluate the local impact of casinos.

**LITERATURE REVIEW**

The effect of casino gambling on local communities has long been an interest of social scientists. For example, Gazel, Rickman, and Thompson (2001) examined the effects of casinos on crime in a panel study of Wisconsin counties. Barron, Staten, and Wilshusen (2002) showed how gambling relates to bankruptcy filings across many counties in the U.S. Rivenbark (1998) focused his research on tax revenues and casinos in Mississippi. Despite the large and growing size of California's gaming industry, there has been surprisingly little research on how gaming has affected California communities.

Most communities legalize gambling to take advantage of the positive economic effects that are thought to "spill over" into the local economy (Eadington 1998). However, the nature and size of these economic effects are likely to vary with the type of gambling activity under consideration. As Eadington (1998) shows, "destination resort" casinos appear to have a much bigger influence on tourism and the local economy than do urbanized casino settings that are thought to "cannibalize" the surrounding business district. Eadington states that most patrons of urban casinos reside in the local community, so money spent in the casino takes away from other entertainment businesses that might have benefited from it.

Tribal gaming casinos tend to be stylized in the form of destination resort casinos, because they are located on Native American reservations, which are often far from major cities. These casinos are typically connected to a hotel, and visitors are often bussed in from remote locations. Tribal casinos are allowed to act as the "house" or "bank" for their table games, and operate slot machines. Acting as the house or banking for a game refers
to the casinos ability to financially accept the terms of wins and loses on hands dealt. Card clubs, on the other hand, are "local casinos" that do not act as the house, but rather supply a casino-like environment that provides services for customers to gather and play against each other. These establishments are urban in nature because they are based within major cities, and in surrounding smaller cities. Local casinos are rarely connected with hotels and are typically much smaller in comparison to their tribal counterparts.

A thorough assessment of the local impact of a casino requires an analysis of the community both before and after gaming is introduced. Gazel (1998) suggests guidelines to evaluate the positive and negative economic affects on the surrounding community. He emphasizes the importance of accounting for many variables when conducting a cost-benefit analysis of any particular casino. Gazel concludes that the "market structure" of the casino, referring to resort destination casinos and local urbanized casinos, plays an important role in the net outcome for local economies.

A perfect example of how state governments approve gambling facilities in the interest of filling state coffers can be found in the cases of Deadwood, South Dakota and Black Hawk, Cripple Creek, and Central City, Colorado (Blevins & Jensen, 1998). The initial intent of legalizing gambling in these cities was to create tourism for the then-dying old western towns, and to stimulate economic growth. Blevins and Jensen (1998) conclude that the net effect of legalized gambling was essentially zero - increases in gaming revenue were almost entirely consumed by the rising costs of infrastructure, law enforcement, and administrative expenses. These authors also found that, along with an increase in crime, there was a rise in the trend of local businesses switching to gambling as a source of revenue, which forced local residents to drive to nearby towns to shop for everyday amenities.

Evans and Topoleski (2002) studied employment trends as they relate to Indian casinos. They found that there is a correlation between the rise in employment and the opening of a casino. This finding is evident mostly in businesses supporting the casino, such as dealer training schools and casino suppliers, rather than in the direct employment of casino workers.

Crime rates are one of the most studied and dissected phenomena that directly relate to gaming activity. In an in-depth analysis of the affect of gaming on local crime rates, Friedman, Hakim, and Weinblatt (1989) discovered, through the use of a quasi-experimental design, that the level of crime in the Atlantic City region has risen dramatically since the
introduction of casino operations, even after controlling for other factors such as population growth and density. They also found evidence of spillover effects, meaning crime spills over into communities surrounding or en route to the gaming destination. Their study suggests that the legalization of gambling may have more secondary impacts than initially assumed.

Bankruptcy filings have gained attention from researchers in recent years because of the rise in individual filings in the U.S. According to Barron, Staten, and Wilshusen (2002), there has been a noticeable increase of filings in communities where casinos have been constructed (even when controlling for such variables as debt usage and expense shocks).

A negative impact study of casinos was conducted by Giacopassi, Nichols, and Stitt (2000) in which they investigated bankruptcy rates in the United States, and the role that casinos have had on them. The researchers studied 16 communities in Mississippi, Iowa, Illinois, and Missouri-eight communities that had recently adopted casino gambling and eight that had not. This study found a distinct relation between the rate of bankruptcy filings and the presence of riverboat and casino gambling. Interestingly, of the eight gambling communities studied, only one had a decline in bankruptcy filings. More importantly, it was the only casino of the group that was initially designed as a destination resort casino. This finding supports Eadington’s (1998) idea that "...the economic benefits associated with casino gambling are likely to be greatest when casinos are built in a destination resort environment as opposed to an urban setting" (61).

**Methodology**

This study examined the relationship between casino presence in California counties, and four categories of social and economic variables: tax revenues and expenditures, bankruptcy filings, crime rates, and unemployment. Following is a brief discussion of why these categories were chosen.

Tax revenues and expenditures are studied here as one of the variables because, as stated in the proposed initiatives, taxation is a big part of why the ballot propositions were initiated. If a casino has any kind of positive effect on a community, through either the creation of jobs, imported wealth, or secondhand spending of the imported wealth, then it will be reflected in the amount of tax revenue generated by the community. If a community is negatively affected (say through cannibalization, gambling loss claims, or a rise in unemployment), one should observe a decrease in tax revenues.

Although California is not currently receiving tax revenues from slot machines in tribal gaming facilities, 10% of their revenues do go to other
non-gaming tribes for the betterment of native Californians as a whole. There is also a three percent revenue tax that goes to the local community to fund public programs. Conversely, California taxes card clubs through regular business taxes. There are also local fees and taxes that most card clubs have to deal with, which vary from fire and police services to special program taxes for the right to operate within their respective districts.

Eadington (1999) states "A second area of gains from casino gambling is the promises of ancillary economic benefits from having a casino, such as job creation…" Supporters of casinos often claim that employment levels rise with the addition or expansion of gaming to a community. Is there truth in this statement, or does it mask the overlooked costs of layoffs from other negatively affected local businesses? Because the level of employment is such an often used argument in favor of casino development, it is also included as one of the variables, for the purpose of verifying or dispelling its related argument.

Crime is viewed as an important argument by opponents of gambling who say it will rise with the opening of new casinos. Do the costs of combating crime in casino communities outweigh the benefits? It is hard to say, but it is easy to see the obvious connection casinos and crime rates. For these reasons this research focuses on crime rates as another impact variable.

Bankruptcy is another variable this study examines because of the rise in U.S. filing rates over the past 20 years (Giacopassi, Nichols, & Stitt, 2000). Opponents of casinos credit this rise to the growth of casinos throughout the country. In 1980, only two states allowed casino-style gambling: Nevada and New Jersey. Today, 26 states allow casino-style gambling, mostly in the form of Indian gaming, as described on the Casino City website. Twenty other states allow other forms of gambling, such as horse racing, card rooms, bingo halls, and lotteries.

All of the impact variables discussed previously in this section are readily available from public sources. Specifically, data on tax revenues were obtained from the California state government website, local unemployment data from the Bureau of Economic Analysis and Census Bureau websites, and bankruptcy and crime data from RAND California (a policy and research think tank). County level data was used in order to assess the local effects of Indian casino operations.

Information on the location of reservation casinos, and the number of slot machines and tables each operates was obtained from the Native American Casino 2004 Indian Casino Directory. Many Indian casinos were contacted individually via telephone or e-mail to obtain opening date
information and years of significant expansion.

This study examines the affects that Indian gaming operations have had on California counties. It uses both cross-sectional and panel regression analysis to analyze this data. In cross-sectional analysis, it can be difficult to separate the effects of casino presence from unobserved data. Thus, this researcher supplemented the analysis with panel regressions, essentially a before-and-after, treatment-and-control group framework, to identify the effects of gaming on California counties. The "treatment" group includes counties where tribal casinos or card clubs are located, while the "control" group includes counties where these businesses are not located. The "before" period includes years prior to the establishment of casino operations (in the case of most tribal casinos, the early 1990s), while the "after" period includes some years following the establishment of the casino. This limitation will help identify the affects of gaming on California counties by looking at the changes in social and economic outcomes in the "treatment" group, relative to those in the "control" group.

A cross-sectional analysis takes a point in time and interprets data, collected on one or more variables, to estimate the affect on the variable in question. A cross-sectional analysis was conducted on crime statistics, bankruptcy filings, tax revenues, and expenditures in the year 2000. The year 2000 was chosen for the availability of its census demographic data. It's also the year following California's legalization of slot machines for Indian tribes through Proposition 1A.

A panel study takes two or more cross-sectional views of the same variables and measures the change between the different points in time. This researcher conducted a panel study on employment across all counties.

Descriptive statistics for the demographic (control) variables are displayed in Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent black</td>
<td>0.033</td>
<td>0.035</td>
<td>0.000</td>
<td>0.147</td>
</tr>
<tr>
<td>Percent hispanic</td>
<td>0.228</td>
<td>0.154</td>
<td>0.036</td>
<td>0.724</td>
</tr>
<tr>
<td>Median family income</td>
<td>49,635</td>
<td>12,794</td>
<td>34,103</td>
<td>88,934</td>
</tr>
<tr>
<td>Poverty rate</td>
<td>0.145</td>
<td>0.049</td>
<td>0.058</td>
<td>0.239</td>
</tr>
<tr>
<td>Unemployment rate (Census)</td>
<td>0.082</td>
<td>0.030</td>
<td>0.030</td>
<td>0.141</td>
</tr>
<tr>
<td>Percent of population between ages 18 - 24</td>
<td>0.091</td>
<td>0.025</td>
<td>0.047</td>
<td>0.183</td>
</tr>
<tr>
<td>Percent of population between ages 65+</td>
<td>0.126</td>
<td>0.034</td>
<td>0.073</td>
<td>0.194</td>
</tr>
<tr>
<td>Urban population (Census)</td>
<td>0.699</td>
<td>0.291</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Population density (Census)</td>
<td>621</td>
<td>2,229</td>
<td>2</td>
<td>16,565</td>
</tr>
<tr>
<td>Unemployment rate, year average (Rand)</td>
<td>0.079</td>
<td>0.048</td>
<td>0.016</td>
<td>0.260</td>
</tr>
</tbody>
</table>
The number of tables and the number of slot machines within a county were used to measure the size of gaming activity in each county. The total number of slot machines and Indian gaming tables per county were used to estimate the economic effect that gambling has had on those counties, instead of the number of casinos per county. This decision was made to minimize the difficulties in studying the effects of casinos of varying sizes. As Figure 1 and 2 illustrate, Indian casinos throughout the state of California are located in diverse environments, including urban, rural, mountain, and coastal. Figure 1 also shows the total number of slot machines per county. Figure 2 also shows the total number of Indian gaming tables per county.

Due to technical constraints, Figure 1 does not display full details.
Due to technical constraints, Figure 2 does not display full details.

Figure 3 shows the relative size of all reservations located in California. When compared to the size of other reservation lands across the country, they are minuscule. Their relative size should provide for a better interpretation of county-wide statistics. (The smaller the reservation, the less likely county statistics will be influenced by reservation demographics.)
Due to technical constraints, Figure 3 does not display full details.
RESULTS

This research first used a panel of 58 California counties (1990-2000) to estimate the relationship between Indian gaming and county unemployment rates (see Table 2). Controlling for county demographics (racial), the fraction of the population aged 65 and older, and the fraction of the population aged 18-24, this study finds that counties with a greater casino presence are associated with somewhat lower unemployment rates. The number of Indian gaming tables was statistically significant at 15%, while the number of slot machines was not statistically significant (imprecise estimates are likely due in part to this study’s small sample size of 58 counties).

Table 2

<table>
<thead>
<tr>
<th>Tribal Casinos and Unemployment in California Counties, 1990 - 2000 (Standard Errors in Parentheses)</th>
<th>County Unemployment Rate (Year Average)</th>
<th>County Unemployment Rate (Year Average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Black</td>
<td>-0.0003 (22.799)</td>
<td>0.0019 (22.797)</td>
</tr>
<tr>
<td>Percent Hispanic</td>
<td>0.0000 (6.991)</td>
<td>0.0000 (6.991)</td>
</tr>
<tr>
<td>Percent aged 18-24</td>
<td>0.0000 (15.05)</td>
<td>0.0000 (15.05)</td>
</tr>
<tr>
<td>Percent aged 65+</td>
<td>0.0000 (20.877)</td>
<td>0.0000 (20.465)</td>
</tr>
<tr>
<td>Number of Casino Tables</td>
<td>0.0001 (0.0005)</td>
<td>-0.0004 (0.0005)</td>
</tr>
</tbody>
</table>

Note: Includes county fixed effect (not shown).

Table 3 shows the relationship between county tax revenues and expenditures and casino presence in a cross-section of all California counties in 2000. Controlling for county demographics (racial and urban population shares), the fraction of the population aged 65 and older, the fraction of the population aged 18-24, and various economic variables (median family income, and the county unemployment and poverty rates), this study finds that counties with a greater casino presence are associated with somewhat higher revenues. All revenue variables, except for business licenses and less than city-wide secured and unsecured taxes, showed a positive correlation when regressed against both the number of slot machines and the number of Indian gaming tables, although few were statistically significant (again likely due to small sample sizes). The relationship between room occupancy tax revenues and tobacco tax revenues, and both the number of slot machines and the number of tables was found to be statistically significant at 10% (tobacco tax), or 15% (hotel room occupancy tax). Expenditure on medical care, mental health, public
health, total social services, and welfare cash aid grants all showed negative correlations when regressed against the number of slot machines. Except for welfare cash aid grants, these variables also showed a negative correlation when regressed against the number of tables. Interestingly, a statistically significant relationship between police expenditures and the number of tables (15%) was found.

In Table 4, this study examines the relationship between county crime rates and casino presence in a cross-section of all California counties in 2000. Controlling for county demographics (racial and urban population shares), the fraction of the population ages 18-24, and various economic variables (median family income, and the county unemployment and

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Relationship Between Native American Casinos and California County Revenues and Expenditures (per capita), 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable</td>
<td>County Mean</td>
</tr>
<tr>
<td>County Revenues per Capita, Selected Categories:</td>
<td></td>
</tr>
<tr>
<td>Business Licenses</td>
<td>1.06</td>
</tr>
<tr>
<td>Total Licenses and Permits</td>
<td>20.80</td>
</tr>
<tr>
<td>Room Occupancy Tax</td>
<td>22.34</td>
</tr>
<tr>
<td>City-wide Secured and Unsecured Taxes</td>
<td>156.36</td>
</tr>
<tr>
<td>Less than City-wide Secured and Unsecured Taxes</td>
<td>8.74</td>
</tr>
<tr>
<td>Total Property Taxes</td>
<td>173.80</td>
</tr>
<tr>
<td>Sales and Use Taxes</td>
<td>28.67</td>
</tr>
<tr>
<td>Tobacco Tax (AB 75 and Proposition 99)</td>
<td>5.23</td>
</tr>
<tr>
<td>Grand Total Revenues</td>
<td>1,279.36</td>
</tr>
<tr>
<td>County Expenditures per Capita, Selected Categories:</td>
<td></td>
</tr>
<tr>
<td>Drug and Alcohol Abuse Services</td>
<td>23.38</td>
</tr>
<tr>
<td>Medical Care</td>
<td>29.25</td>
</tr>
<tr>
<td>Mental Health</td>
<td>67.69</td>
</tr>
<tr>
<td>Police</td>
<td>95.22</td>
</tr>
<tr>
<td>Public Health</td>
<td>68.83</td>
</tr>
<tr>
<td>Social Services, Administration and Programs</td>
<td>37.29</td>
</tr>
<tr>
<td>Total Social Services</td>
<td>41.27</td>
</tr>
<tr>
<td>Welfare Administration</td>
<td>115.88</td>
</tr>
<tr>
<td>Welfare Cash-aid Grants</td>
<td>140.27</td>
</tr>
<tr>
<td>Total Welfare</td>
<td>256.15</td>
</tr>
<tr>
<td>Grand Total Expenditures</td>
<td>1,199.90</td>
</tr>
</tbody>
</table>

Notes: All regressions include controls for county median family income, percent black, percent hispanic, unemployment rate, poverty rate, fraction of population aged 18-24, and population density. Items in italics are statistically significant at about the 15% level.
poverty rates), this study finds that counties with a greater casino presence are associated with somewhat higher crime rates. The specific crime variables studied are shown in Table 4. When regressed against the number of slot machines, all variables, except arsons, larceny, and domestic violence calls, showed a positive correlation. When regressed against the number of tables, all results were qualitatively similar to those using the number of slot machines except for a negative correlation with willful homicides. Only aggravated assaults and violent crimes were statistically significant at 10% when regressed for the number of tables. The California Crime Index (a composite measure of crime) was also somewhat significantly related to the number of tables (at just under 15%).

Finally, Table 5 shows the relationship between bankruptcy filings and casino presence in a cross-section of all California counties in 2000. Controlling for county demographics (racial and urban population shares), the fraction of the population aged 65 and older, and various economic variables (median family income, and the county unemployment and poverty rates), this study finds that counties with a greater casino presence are associated with higher bankruptcy filings. All bankruptcy rates are

### Table 4

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Regression Coefficient on:</th>
<th>County Mean, 2000</th>
<th>Number of Slots</th>
<th>Number of Tables</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBI Crime Index</td>
<td></td>
<td>3,373.8</td>
<td>0.0216</td>
<td>1.5851</td>
</tr>
<tr>
<td>California Crime Index</td>
<td></td>
<td>1,526.1</td>
<td>0.0503</td>
<td>2.2542</td>
</tr>
<tr>
<td>Aggravated Assaults</td>
<td></td>
<td>333.3</td>
<td>0.0159</td>
<td>0.7638</td>
</tr>
<tr>
<td>Arsons</td>
<td></td>
<td>37.9</td>
<td>-0.0013</td>
<td>-0.0644</td>
</tr>
<tr>
<td>Burglaries</td>
<td></td>
<td>751.0</td>
<td>0.0292</td>
<td>1.3037</td>
</tr>
<tr>
<td>Forcible Rapes</td>
<td></td>
<td>30.3</td>
<td>0.0005</td>
<td>0.0229</td>
</tr>
<tr>
<td>Larceny Thefts</td>
<td></td>
<td>1,809.8</td>
<td>-0.0274</td>
<td>-0.7052</td>
</tr>
<tr>
<td>Motor Vehicle Thefts</td>
<td></td>
<td>326.9</td>
<td>0.0043</td>
<td>0.2093</td>
</tr>
<tr>
<td>Property Crimes</td>
<td></td>
<td>1,077.9</td>
<td>0.0334</td>
<td>1.5132</td>
</tr>
<tr>
<td>Robberies</td>
<td></td>
<td>80.0</td>
<td>0.0005</td>
<td>0.0562</td>
</tr>
<tr>
<td>Violent Crimes</td>
<td></td>
<td>448.2</td>
<td>0.0169</td>
<td>0.8415</td>
</tr>
<tr>
<td>Willful Homicides</td>
<td></td>
<td>4.5</td>
<td>0.0000</td>
<td>-0.0013</td>
</tr>
<tr>
<td>Domestic Violence Calls</td>
<td></td>
<td>57.9</td>
<td>-0.0023</td>
<td>-0.0829</td>
</tr>
</tbody>
</table>

Notes: All regressions include controls for county median family income, percent black, percent Hispanic unemployment rate, poverty rate, fraction of population aged 18-24, percent urban, and population density. Items in **Bold** are statistically significant at about the 5% level. Items in *Italics* are statistically significant at about the 15% level.
separated into three categories:

- **Chapter 7** - This type of bankruptcy wipes out all qualifying debt with no repayment required.
- **Chapter 13** - This type of bankruptcy provides an individual or business with a way to consolidate debt under federal law and repay creditors a portion of what is owed over time.
- **All Bankruptcies** - This category includes Chapter 7 and 13 filings along with all other forms of bankruptcy filings.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Chapter 7 Bankruptcies</th>
<th>Chapter 13 Bankruptcies</th>
<th>All Bankruptcies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>County Mean, 2000</td>
<td>Regression Coefficient on:</td>
<td>County Mean, 2000</td>
</tr>
<tr>
<td></td>
<td>Number of Slots</td>
<td>Number of Tables</td>
<td>Number of Slots</td>
</tr>
<tr>
<td>Nonbusiness</td>
<td>3.10526</td>
<td>0.00015</td>
<td>0.00553</td>
</tr>
<tr>
<td>Business</td>
<td>0.09825</td>
<td>0.00000</td>
<td>-0.00012</td>
</tr>
<tr>
<td>Total</td>
<td>3.20351</td>
<td>0.00015</td>
<td>0.00544</td>
</tr>
<tr>
<td>Nonbusiness</td>
<td>0.55263</td>
<td>0.00000</td>
<td>0.00072</td>
</tr>
<tr>
<td>Business</td>
<td>0.03509</td>
<td>0.00000</td>
<td>-0.00010</td>
</tr>
<tr>
<td>Total</td>
<td>0.59298</td>
<td>0.00001</td>
<td>0.00051</td>
</tr>
<tr>
<td>Nonbusiness</td>
<td>3.66140</td>
<td>0.00016</td>
<td>0.00623</td>
</tr>
<tr>
<td>Business</td>
<td>0.15789</td>
<td>-0.00001</td>
<td>-0.00028</td>
</tr>
<tr>
<td>Total</td>
<td>3.81754</td>
<td>0.00015</td>
<td>0.00586</td>
</tr>
</tbody>
</table>

Mean number of slots, 2000, N=58 663.88 1,544.37
Mean number of tables, 2000 15.48 41.94
Mean number of slots, 2000 (conditional on slots>0), N=23 1,674.13 2,100.32
Mean number of tables, 2000 (conditional on tables>0), N=21 42.76 61.54

Notes: All regressions include controls for county median family income, percent black, percent hispanic, unemployment rate, poverty rate, fraction of population aged 65+, and population density. Items in **Bold** are statistically significant at about the 5% level. Items in *italics* are statistically significant at about the 15% level.

When regressed against the number of slot machines, all variables, except business filings in the All Bankruptcies category, showed a positive correlation. When regressed against the number of Indian gaming tables, business filings under all three categories showed a negative correlation. Casino presence was significantly related to both non-business and total Chapter 7 filing rates across counties, whether measured using slot machines or the number of tables (5%). The number of tables also showed a strongly significant correlation, at 5%, with non-business filings in the All Bankruptcies category, but shows only a somewhat significant correlation, at 15%, with total filings in the same category. The number of slot machines was only somewhat significant with the business filings and total filings, in the All Bankruptcies category, at about 15%.
LIMITATIONS

There are many other social and economic indicators that can be included in a future study of California’s gaming industry. As stated earlier, Gazel (1998) details a specific approach to evaluating the positive and negative economic effects of casinos on the surrounding community. He lists a series of direct and indirect impacts, along with a multiplier effect, that should be followed for a critical economic assessment. However, because of time and resources, a more general look was warranted by this study. The variables chosen here probably represent a wide variety of possible impacts.

Dates received during this research for the opening of some casinos were approximate. Many Indian casinos began as bingo halls then gradually acquired gaming tables, video machines, and finally slot machines. Approximate dates were used for major casino expansions when specific dates were not available.

This study opens up a door for future research in the expanding field of gaming economics. Future research questions could include: What is the impact of card rooms throughout California? What effect has the expansion of gaming laws in California had on neighboring Nevada? What are the environmental impacts of casino construction or expansion on tribal lands? What economic impact have casino tax dollars had on local communities? Depending on the outcome of the November 2004 ballot propositions, future research in this area will be necessary to aid in public policy decisions. It will also prove helpful to other states exploring the possibility of benefiting from the tax revenues generated by gaming operations.

CONCLUSION

This analysis indicates that unemployment may have declined since the opening of casinos in affected counties. This finding runs parallel with Evans and Topeleski’s (2002) findings of increased employment in communities, especially in the businesses that support casinos. It is also important to note that business bankruptcy filings had a modest negative correlation with casino presence, albeit not significant. This suggests that Eadington’s (1998) theory that the "destination resort" is better for the community than is an "urban" casino may hold some value.

Tax revenues also seemed to increase significantly in tobacco and hotel taxes, while increases in police expenditures were also noticed. This finding seems to agree with Blevins and Jensen’s (1998) findings, which indicate that expenditures cancelled out the revenue gains from a casino district.
Non-business bankruptcy filings, however, displayed a significant correlation with a casino presence in the county, especially in Chapter 7 filings. This finding contradicts Giacopassi, Nichols, and Stitt's (2000), findings of the one casino district that did not show an increase in bankruptcy rates (the destination resort casino). It is important to note that most Indian casinos in California are stylized as destination resort casinos, which is what this research had concentrated on.

Crime rates told a similar story with most being positively (albeit modestly) correlated with Indian casinos. The stronger relationship was shown to be with aggravated assaults and violent crimes. The outcomes presented here are similar with those of Friedman, Hakim and Weinblatt's (1989) casinos and crime study, which showed a significant increase in all forms of crime, except larceny, with the opening of a casino. Interestingly enough, larceny was one of the few variables that showed a negative correlation with Indian casinos in this study, although it was not very significant at all. Perhaps a deeper analysis should be conducted on this variable to explain the rather surprising correlation.

Finally, in all observations, it was clear that the number of Indian gaming tables had a much stronger relationship with all variables than that of the number of slot machines. A future study will be conducted in this area by this researcher. This researcher can only speculate that, perhaps, the difference in age and financial stability between those patrons of table games as opposed to patrons of slot machines have something to do with the variance in significance.

A similar correlation, between casino expansion and all investigated variables, can be expected with the adoption of the Indian Gaming Fair-Share Revenue Act. However, there may be a difference in results if the Gaming Revenue Act is adopted in November of 2004. It will be interesting to see the outcome of these variables when measured against casinos that are urban in nature such as card rooms.
REFERENCES


An Analysis of Escherichia coli in American and Tanzanian Water Samples

Melissa Johnson

ABSTRACT

Two strains of Escherichia coli were used in this study to determine their inactivation rates in heated water. Most experiments were conducted with E. coli ATCC 11775, but an E. coli strain isolated from water in Tanzania was used in one experiment to compare its heat inactivation with the ATCC strain. The research was divided into four phases. In Phase I, sterile river water was heated to 58°, 60°, or 62°C, inoculated with E. coli, and cell viability was followed with time. D values (decimal reduction time) for E. coli were $D_{58} = <2 \text{ min}$, $D_{60} = 1.3$, $D_{62} = <0.5 \text{ min}$. In Phase II, sterile river water in a beaker on a hotplate was inoculated with approximately $10^5$ E. coli/ml, and the water was heated from 50-61°C at rates of approximately 0.1, 0.5, and 2°C/min. A five log decrease in viability was achieved by 56°C when the heating rate was 0.1°C/min, by 61°C when the heating rate was 0.5°C/min, and a four log decrease in viability was achieved at 61°C when the heating rate was 2°C/min. In Phase III, an E. coli strain isolated from Tanzania had a $D_{58}$ of about 1 min, comparable to the ATCC strain. In Phase IV, water inoculated with $10^5$ E. coli/ml was heated in a black jar placed in a Cookit solar cooker. It took about 90 minutes for the water to heat to 50°C, and an additional 22 min to heat to 56°C, an additional 11 min to heat from 56°C-60°C. A 5-log reduction in CFU/ml was obtained when the water heated to 55°C, and complete inactivation was obtained by 56°C. The data from these experiments indicate that a large log reduction in E. coli viability will be obtained if water is heated to 60-62°C, and further inactivation will occur while the water cools to below 55°C. As this type of heating can be accomplished with sunshine in several hours using a simple solar cooker, this presents a new approach to pasteurize contaminated water in developing countries to improve overall health.

In developing countries, approximately 1.2 billion people do not have access to safe water (World Health Organization). Each year an estimated 1.5 billion children develop severe diarrhea from the consumption of contaminated water, with 2 million deaths, mainly in children under five years old (Metcalf, 2002). Poor regulation of sewage is the primary cause of water contamination. Most of the pathogens present are Gram-negative bacteria, such as Vibrio cholerae, Salmonella typhi, Shigella sp, Enterotoxigenic E. coli, and Campylobacter.

E. coli is the most abundant facultative anaerobe in mammalian feces, at a concentration of $10^8$ CFU/g of human feces. Because of its abundant presence in fecal material, it is used as an indicator of fecal contamination.
in water (Edberg et. al, 2000). Although most strains of E. coli are not pathogenic, some strains possess virulence genes that can lead to diarrheal diseases. Diarrheagenic E. coli causes illness in its host by using strategic infection, which consists of:

- entering its host through ingestion and adhering to the small bowels,
- overriding its host's defense system,
- rapidly propagating, and
- causing damage in its host (Nataro, 1998).

In Dhaka, Bangladesh, stool cultures containing E. coli were gathered from nearly 40% of a population of 812 children ranging in age from 0 to 5 years (Albert et. al, 1999). In Osun State, Nigeria, cultured stool samples from children age 0-5 years with diarrhea revealed the presence of E. coli, Salmonella, and Shigella in proportions of 56.8%, 0.5%, and 0.9% of all cases, respectively (Okeke et. al, 2000).

Although it is well known that pathogenic microbes in water are killed by boiling temperatures, it is less well known that 100°C is far above temperatures which rapidly inactivate water-borne pathogens. Sub-boiling temperatures should be sufficient to completely inactivate water-borne pathogens, similar to pasteurization of milk, most commonly done at 72°C for only 15 seconds, or the pasteurization of raw eggs, at 60°C for 3.5 minutes. In the context of solar water pasteurization, E. coli is at least as heat resistant as other Gram negative bacteria and rotavirus. It can grow at 44.5°C, which designates it as a thermotolerant coliform In a study using black containers and solar cookers to heat the water samples, inactivation of E. coli occurred at when water was heated to 60°C (Safapour and Metcalf, 1998). In Kenya, water samples held consistently at 55°C for seven hours were also found to have no viable E. coli present (Joyce et. al, 1996). The primary purpose of this study was to investigate the minimum temperature and time needed to heat water to cause a five log reduction in E. coli viability, the equivalent of pasteurizing contaminated water. Conditions will simulate the relatively slow heating of solar cookers, <1°C/minute, and the rapid heating of gas fires and electric burners, >1°C/minute. The information obtained in this study will be useful to current solar water pasteurization projects in Tanzania and Kenya (Metcalf, 2002).

**Methodology**

**Water Source.** American River water was autoclaved in 2-L flasks and stored at room temperature.

**Laboratory temperature simulations.** Solar heating of E. coli was simulated using hotplates to heat river water in 600 ml beakers. The
temperature was measured with a Trendicator 400 thermometer (Doric Scientific, San Diego, Calif.) with thermocouple probes submerged in the water. The thermometer was calibrated using ice cold water (0°C). In the D value experiments, the water temperature was maintained within +/-0.1°C of the desired temperature.

**Bacterial preparation and enumeration.** E. coli, ATCC 11775, and an E. coli isolated from Tanzania water, were inoculated into 5 ml of Brain Heart Infusion broth and incubated overnight at 37°C. This yielded a stock solution of 10⁹ CFU/ml. Test solutions were prepared using serial dilutions to reduce the concentration of cells. For the D-value experiments in Phase I and Phase III, decimal dilutions were made to obtain approximately 10⁵ CFU/ml. 4 ml of this dilution was added to 400-ml of sterile heated water. Five seconds after the initial inoculation, and at each subsequent time interval, 1-ml of sample was removed and immediately diluted in 9 ml of sterile water to stop the heating. The 1/10 dilution contained approximately 100 cells/ml. In Phase I experiments, 1 ml from the diluted 1/10 sample was added to duplicate Petri dishes, followed by addition of melted and cooled R2A agar, mixed, and cooled. In addition, 1 ml of the 1/10 dilution was also added to a Total Aerobic Count Petrifilm (3M Company, Minneapolis), and to 1 ml of double strength Colilert broth and 1/2 strength nutrient broth. In Phase III experiments, 1 ml of the 1/10 dilution was added to duplicate Total Aerobic Count Petrifilms.

In Phase II and Phase IV experiments, the initial cultures were diluted 10², and 1 ml of this dilution was added to each 100 ml river water to obtain about 10⁵ CFU/ml. At the various temperatures, 1.0 ml was added to a Total Aerobic Count Petrifilm, 1 ml was added to double strength Colilert broth. All tubes, plates and Petrifilms were incubated at 35°C for 1 day before recording results.

In the Phase IV experiment, sterile American river water in a 1.5 l glass jar, painted black, was inoculated with approximately 10⁵ E. coli ATCC/ml. The jar was placed in a Cook-it solar cooker, and placed outside to receive direct sunshine to heat the water. Starting at 50°C, and at 1°C intervals through 61°C, 1 ml was removed from the jar and inoculated into Colilert broth and Total Aerobic Count Petrifilms.

**RESULTS**

**Phase I.** The results from the experiment performed at 58°C, 60°C, and 62°C are presented in Tables 1-3 respectively. There was a two-log reduction at four min at 58°C, a 1.5 log reduction at two min at 60°C, and
at least a 2 log reduction in 1 min at 62°C and no growth in the Colilert and nutrient broth tubes. The D values obtained are $D_{58} = <2$ min, $D_{60} = 1.3$ min, and $D_{62} = <0.5$ min. When there were no viable cells from plate counts or Petrifilms, there was no growth in the Colilert broth or nutrient broth.

**Phase II.** Starting at 50°C, river water inoculated with approximately $10^5$ cells/ml was heated on a hot plate at rates of 2°C/min, .5°C/min, and .1°C/min. The results from these experiments are presented in Tables 4-6.

At the slowest heating rate, 0.1°C/hour significant killing occurred by 54°C, a 5 log reduction was obtained at 56°C, and no viable cells remained at 57°-61°C (Table 4). The Petrifilm counts correlated with growth/no growth in BHI broth and 1/2 strength nutrient broth, as did the Colilert broth, except that there was no growth in the Colilert tube from the 56°C sample. At a heating rate of approximately .5°C/1 min, there was a 4 log decrease in viable cells at 60°C, and a five log decrease at 61°C (Table 5). At the very rapid heating, rate of 2°C/1 min, there was a four log decrease in CFU/ml by 61°C, with no growth in the Colilert broth, but the Petri film had 8 CFUs present (Table 6).
Phase III. The strain of E. coli isolated from Tanzania water displayed a two log reduction after 2 minutes (Table 7). By the fourth minute, no viable cells remained. In the experiment with the ATCC E. coli strain that had been used in Phase I experiment, peculiar results were obtained. No colonies were present after 1 day's incubation, even on the initial sample. After 7 days incubation at room temperature, however, colonies appeared in large numbers. The colonies on the Petrifilms varied in size and color from large and dark red (positive appearance) to the size of a pin tip and very faint. The data for this portion of the experiment was
inconclusive. A summary of the data received from both strains of E. coli is presented in Tables 7 & 8.

### Table 7. Tanzanian strain of E. coli heated at 58°C

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Petri film</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>152</td>
</tr>
<tr>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
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<td>6</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

### Table 8. ATCC E. coli heated at 58°C

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Petri film¹</th>
<th>Petri film²</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>158</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>46</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>TNC TNC</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>TNC TNC</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>TNC TNC</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>TNC TNC</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>TNC TNC</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>TNC TNC</td>
</tr>
</tbody>
</table>

¹ Too numerous to count
² First check
³ Second check, 7 days after first check

**Phase IV.** When river water was inoculated with E. coli ATCC to approximately $10^5$ cells/ml, and the water was heated in a 1.5 black jar, it took approximately 90 minutes for the water to heat from the ambient temperature of 50°C. By 53°C, the Colilert test was negative, but 36 CFU were present on the Petrifilm. At 54°C there were only 2 CFU on the Petrifilm, at 55°C only 1 CFU, and at 56°C, there was no detection of CFUs on the Petrifilms. A summary of the data from the solar pasteurization is displayed in Table 9.

### Table 9. Data from the Solar Water Pasteurization process

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Temp (°C)</th>
<th>Colilert</th>
<th>Petri film</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>50</td>
<td>+++</td>
<td>TNC</td>
</tr>
<tr>
<td>05:00</td>
<td>51</td>
<td>+++</td>
<td>TNC</td>
</tr>
<tr>
<td>08:01</td>
<td>52</td>
<td>+++</td>
<td>TNC</td>
</tr>
<tr>
<td>13:00</td>
<td>53</td>
<td>--</td>
<td>36</td>
</tr>
<tr>
<td>16:00</td>
<td>54</td>
<td>--</td>
<td>2</td>
</tr>
<tr>
<td>18:30</td>
<td>55</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>22:00</td>
<td>56</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>25:00</td>
<td>57</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>28:00</td>
<td>58</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>31:00</td>
<td>59</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>33:30</td>
<td>60</td>
<td>--</td>
<td>0</td>
</tr>
<tr>
<td>37:00</td>
<td>61</td>
<td>--</td>
<td>0</td>
</tr>
</tbody>
</table>

¹ degree of positive test
² negative test
³ Too numerous to count
DISCUSSION

Phase I. The initial sample, listed as zero minutes, was actually taken five seconds after the E. coli suspension had been added to reach approximately $10^3$ CFU/ml in 400 ml water in the heated beaker, and approximately $10^2$ CFU/ml in the 1/10 dilution, which was then sampled for total CFU. As this experiment was conducted on the same day, and the D value experiments run consecutively, the actual initial CFU/ml should have been similar. As the first sample (0 min) was actually taken 5 seconds after addition of the dilution, some heat inactivation probably took place at 60°C and particularly at 62°C, when initial counts averaged 60 and 7 CFU/ml, respectively, compared with 100 CFU/ml for the 58°C sample.

The approximate D-values for 58°C, 60°C, and 62°C were <2 min, 1.3, and < 0.5 min, respectively. In the Phase III experiment, the same E. coli ATCC culture used in the Phase I experiments, and an E. coli isolate from Tanzania were inoculated into water heated to 58°C, and samples were removed more frequently than in the Phase I experiment. The Tanzanian E. coli demonstrated a two log decrease within 2 minutes, for a $D_{58} = 1$ min. Peculiar results prevented the estimation of $D_{58}$ for E. coli ATCC in this experiment.

Phase II. At the slow heating rate, approximately 1°C every 10 min, approximately a 4 log decrease in viable counts was obtained by 54°C, a five log decrease was obtained by 56°C, and no viable cells were present when 57°C was reached. These data indicate that significant inactivation of the bacteria occurs at temperatures above 53°C. The data suggest that heating water slowly to high 50°C temperatures could pasteurize contaminated water. Using 58°C as the final temperature in very slow heating would allow for a safety zone. The rapid, and very rapid heating rates of 1°C every two minutes, and 1°C every half minute gave the E. coli cells less time in the heat-stressed temperatures. Thus, a higher temperature had to be reached to achieve a four log reduction in viable counts, 60°C for the rapid rate, and 61°C for the very rapid rate. Once the experiment had run to completion and the temperature reached 61°C, there was still one CFU present at the
rapid heating rate, and 8 CFU/ml present at the very rapid heating rate. The viable counts taken during these experiments only were in the heating phase. It is expected that there would be additional killing of bacteria as the water heated to 61°C and then cooled. If the cooling rate was similar to the heating rate, an additional 4 - 5 log inactivation of E. coli would occur. It would have been useful to have taken an additional viable cell sample when the rapid and very rapidly heated water had cooled to 53-55°C. Water very rapidly heated to 61°C, even over a gas or electric burner, is unlikely to be rapidly cooled down to 53°C, so additional lethality to microbes will occur.

Phase III. The Tanzania E. coli isolate had a $D_{ss} = \text{about 1 min}$, in the same range as the ATCC culture in the Phase I experiment. The results from the ATCC culture in the Phase III experiment were suspicious and illogical. No colonies developed in the initial sample after one day's incubation, but 158 developed after a week's incubation, and TNTC colonies developed after a week's incubation for the 2-12 minute samples. It is likely that there was some unexplained contamination of the sample.

Phase IV. The Cookit solar cooker proved to be quite efficient to inactivate $10^5$ E. coli/ml. Once the temperature reached 53°C, a 2-3 log reduction had already occurred. The low-temperature was compensated for by the slow heating rate, as obtained in the Phase II experiments. The sun's heating rate was slower than the slow heating rate (0.1°C/1 minute) from Phase II. After one and one half hours, the water heated to 50°C, when the first sample of water was taken, and TNTC was obtained. The Colilert test became negative at 53°C in comparison to 56°C for a negative Colilert test in Phase II experiment, slow heating rate. Following total counts with the Petrifilms, the solar water pasteurization process had no CFU counts at 56°C, while in Phase II the lowest recorded temperature for complete inactivation was 57°C. These results would substantiate the finding that longer times at temperatures above 53°C increase lethality.

If a day has only partial sunshine, meaning clouds will be intercepting the rays that heat the water sample, then the sample may increase and decrease in accordance with the disappearing-reappearing sunlight. This could cause the water sample to be heated inconsistently. From the data presented, if contaminated water is heated to at least 60°C, and then allowed to cool at ambient temperatures, greater than a 5-log reduction of bacteria such as E. coli should occur. What is needed, therefore, is some water pasteurization indicator, to verify that this pasteurization temperature has been achieved. Volunteers for Solar Cookers International, Sacramento, have developed such a device, abbreviated as WAPI. This is a polycarbonate tube, partially filled with a wax. The WAPI is placed in water with the wax
at the top of the tube. A stainless steel washer around the tube holds the WAPI at the bottom of the container. When the water heats enough to melt the wax, the wax melts and falls to the bottom of the WAPI. The central question is: At what temperature should the wax melt? The pasteurization temperature recommended by Ciochetti and Metcalf, 65°C, should reliably produce safe water.

CONCLUSION

The data presented in this study suggest that a wax melting at 60-62°C would be sufficient to verify that greater than a five log reduction in water-borne pathogens is obtained from the heating and cooling cycles. As these temperatures can be reached in several hours of heating in a Cookit solar cooker, this procedure could contribute to improved health among the 1.2 billion people who do not have access to safe water.
REFERENCES


Racial Identification and Racial Preference in Children

Teresa Z. Galindo

ABSTRACT

The pioneering yet controversial study by Clark and Clark (1947) reported that African duplication of the study has refuted this claim. The purpose of this study is to examine whether all children, not just African American children, currently identify with their own ethnicity, and whether they have positive or negative views of their ethnicity. It will further demonstrate that children today correctly identify their ethnicity when presented with dolls of different ethnicities.

A large quantity of data exists regarding children and their racial preference and racial identification. The pioneering study by Clark and Clark (1947) reported that African American children do not embrace their ethnicity and see themselves as "white". The duplication of the study has refuted this claim. This current study will further demonstrate that children today correctly identify their ethnicity when presented with dolls of different ethnicities.

The purpose of this study is to examine whether all children, not just African American children, currently identify with their own ethnicity, and whether they have positive or negative views of their ethnicity.

LITERATURE REVIEW

Kenneth B. Clark and Mammie P. Clark (1947) were the first researchers to investigate racial identification and racial preference in children using dolls. These scholars conducted a research project in which children were presented with four dolls that were identical except for their skin and hair color. The participants in this study were 253 African American children ranging from age three to seven. There were two groups of participants from different geographic areas, a southern group that consisted of children from segregated nursery schools or public schools and a northern group that consisted of children who were not segregated.

The researchers asked the children a series of eight questions that determined each child's preference and racial identification of the dolls. The following four questions were designed to identify what preference the children had from one doll to the other:

- Which doll do you prefer to play with?
- Which doll is the nice doll?
- Which doll looks bad?
- Which doll has a nice color?
The following three questions were used to determine whether the children could recognize "racial differences":

- Which doll is white?
- Which doll is colored?
- Which doll is Negro?

The last question (Which doll looks like you?) was used to determine whether the children demonstrated an awareness of their own racial identification.

Results from Clark and Clark's (1947) study revealed that its participants had obvious knowledge of the racial identification of the dolls: ninety-four percent of the children gave the researcher the white doll when asked for it, and ninety-three percent also correctly identified the colored doll. When the participants were asked to choose the doll that "looks like you", sixty-six percent identified with the colored doll and thirty-three percent identified with the white doll, indicating that approximately one third of the participants made an incorrect identification with the white doll.

Clark and Clark's (1947) results indicated a general trend in relation to the age of the participants. The younger children ages three- to four-years, showed a higher preference for the white doll. Children from ages four- to five-years demonstrated a preference for the colored doll. And the children, ages five- to seven-years demonstrated the highest preference for the colored doll among all the other age groups.

Because African Americans range in their skin color, the results yielded differently when choosing the doll that looked like them. African Americans range in skin color from fair to dark, and, in turn, the darker colored children correctly identified with the colored doll, while lighter skinned African American children identified with the white doll.

Participants from both the northern and southern regions who preferred to play with the white doll identified it as the nice doll, and rated it slightly higher than they did the colored doll as having a nice color. Seventy-one percent of the northern children and forty-nine percent of the southern children identified the colored doll as bad. A greater percentage of northern children identified with the white doll. These results lead Clark and Clark (1947) to determine that African American children favored the colored doll less than they did the white doll.

The Clark and Clark (1947) study has been duplicated many times, and the results have been quite different with each study. However, researchers have speculated that social changes and modern day racial relations have influenced the differing results. For example, since 1947,
when Clark and Clark's work was performed African American heritage has been more openly praised and celebrated. However, other variables, such as the social development of African Americans, differences in participant gender and the characteristics of the dolls used in the study, may have altered the results of Clark and Clark (1947).

The social development of African Americans has changed throughout the last century. In the 1960s and 70s, with the coming of the Civil Rights Movement and the development of the social and economic rights of African Americans, studies have shown that children correctly identify themselves with such mottos as "Black is beautiful". A study by Hraba and Grant (1970) concluded that seventy percent of African American children preferred the colored doll.

However, when Mahan (1976) duplicated Clark and Clark's 1947 study, her findings revealed that, while female African Americans identify with the colored doll, African American males do not. Mahan (1976) related the results to a previous study done in 1970 in which participants were disabled children. Mauer (1970) discovered that disabled girls identify with disabled characters while disabled boys do not. A speculation of the researcher's is that boys find a disability in being colored, and therefore boys distance themselves from their skin color. Similarly, when identifying with dolls, African American boys identify with others to strengthen their own image. Fine and Bowers (1984) argue that boys may use this tactic much more than do girls to enhance their self-esteem, self-concept, and social status. Boys, according to these researchers, do not identify themselves as a minority, rather they prefer to see themselves as "superior" by identifying with the white doll. These boys are attempting to identify up, which means identifying with a group that is superior. This argument raises the question as to why boys feel like this.

Gilligan (1977) and Chodorow (1978), argue that young, African American girls raised primarily by their mother frequently identify themselves as African American because they have formed healthy relationships and views regarding African American women. At the same time, even if African American boys have a relationship with and form a positive view of their fathers, they are often pushed to strive for the best and excel at their activities, which, in turn, cause boys to "identify up".

An extraneous and debated variable was the matter of the stimulus: the doll. In Clark and Clark's (1947) study, the dolls were either white with blond hair or colored with black hair. No mention was made of the dolls eye color. Klein, Levine and Charry (1979), explored the possibility of whether the children chose the dolls according to their own skin color or
based their choice on a different characteristic of the dolls. The researchers mention how, according to Piaget, children in several stages of development do not look at objects as a whole, but in parts. As a result, a child may choose a doll because of its hair color or texture rather than its skin color. Children may be fixed on one characteristic causing them to ignore the object as a whole, and choose the object solely on the characteristic that drew their attention.

This notion may explain why children have chosen the white doll over the colored doll. Because most white dolls have blond hair and blue eyes, children may just prefer the color of the doll's eyes and so choose it, and in turn identify with it. This experiment supported the notion that features in a doll (or any object) may influence the choice of a child.

**Methodology**

Because this research sought the participation of children attending daycare on the California State University, Sacramento (CSUS) campus, approval from the Human Subjects Committee was granted to proceed with the research. The Human Subjects Committee found this project to be of minimal risk to the participants. Contact was made with the CSUS Associated Students Inc. Day Care program and the CSUS Head Start program to solicit participation in this study.

**Participants**

The participants in this study included 28 children of different ethnicities, ranging from ages three to seven. The participants were from daycare programs at CSUS. The children in these programs have at least one parent attending CSUS. The children required parental consent to participate in the study, however, verbal consent from each child was also required to proceed with interview. After completing the interview, each child was compensated by receiving a small toy. They were unaware of the compensation before completing the interview.

**Apparatus**

This study used a traditional research method. The participants were interviewed individually using a series of questions designed to get them to express their views regarding different races (see Appendix A). Three dolls were also used in this study:

- A Caucasian doll
- An African American doll
- A racially ambiguous doll

The racially ambiguous doll is a doll that does not appear to be a Caucasian, African American, Asian or a Latino doll. Two of the dolls are from
Mattel's Barbie Pretty Flowers Series, and one doll is from Mattel's Barbie Great Date Series. The dolls wore identical outfits: a casual, conservative blouse and knee-length skirt from the Mattel Barbie Fashions Collection. The participants were asked a series of questions to establish:

- Recognition of the different ethnic groups (Which doll is the white doll?)
- Preference (Which doll is prettier? Which doll is smarter?)
- Identity (Which doll looks like you?)

**Procedures**

Once granted approval from the Human Subjects Committee, research was conducted at the participating day care programs: CSUS ASI day care program and CSUS Head Start. Even though the programs indicated that they did not require consent forms from the parents allowing their children to participate in the study, the researcher provided a consent form. Any parent who objected to his/her child participating in the study declined to sign the consent form, and the child did not participate in the study. Even if the parents gave consent for their child to participate in the research, the researcher still requested verbal consent from the child.

Before beginning the interview, the children were given the option to withdraw from the study at any point. Participant interviews were conducted at the day care program locations. Each participant was interviewed individually, and the researcher read each question aloud. The children were interviewed for less than three minutes each, and their answers were kept strictly confidential. Once the children answered the questions they were dismissed and given their compensation. The participants were debriefed at the end of the study.

**Results**

Because the data in this study is categorical, chi square was used to analyze it. The chi-square was compared using ethnicity, skin color and gender versus the response of each participant. Due to the relatively small number of participants, many cells in the chi-square had an expected count of less than five.

When analyzed by the participants' ethnicity, seven Caucasian children out of 11 considered the Caucasian doll the prettiest. Four of seven African American children considered the African American doll the prettiest. Asian children equally considered the Caucasian and the ambiguous doll the prettiest. Four of the five Latino children considered the Caucasian doll the prettiest.

When asked which doll is Caucasian, five of the 11 Caucasian children
identified the racially ambiguous doll. Three of the seven African American children correctly identified the Caucasian doll as Caucasian. When asked which doll was the smartest, five of the 11 Caucasian children identified the ambiguous doll, three of the African American children identified the ambiguous doll, and another three African American children identified the Caucasian doll. Three of the five Asian children identified the Caucasian doll as the smartest, as did the same ration of Latino children.

Caucasian children chose the white doll and ambiguous doll five times each when asked whom they preferred as a best friend. African American children chose the African American doll four times out of seven. Latino and Asian children each chose the Caucasian doll three out of a possible five times.

When asked which doll is the ugliest, Caucasian children chose the African American doll eight of 11 times. African American children considered African American doll as the ugliest only one of seven times. Both Latino and Asian children considered the African American doll the ugliest: Latinos three of five times, and Asians four of five times.

Caucasians considered the Caucasian doll as the nicest seven of 11 times. African Americans considered the African American doll four of seven times. Asian children chose the Caucasian doll as the nicest three of five times. Latino children chose the Caucasian doll four of five times.

When asked to identify the African American doll, Caucasian children chose the African American doll eight of 11 times. African American children chose the African American doll five of seven times.

A significant difference was found when the children were asked which doll they preferred to play with (p<.05). Caucasian children preferred to play with the ambiguous doll six of 11 times, and the Caucasian doll five of 11 times. African American children preferred to play with the African American children four of seven times. Latino children preferred to play with the Caucasian doll four of five times.

When asked "Which doll looks like you?", Caucasian children chose both the Caucasian doll and the ambiguous doll five of the 11 times. African American children chose the African American doll four times, and the Caucasian doll three times. Asian children chose the Caucasian doll four of five times. Latino children chose the Caucasian doll three of a possible five times.

The participants' answers were also analyzed by the their skin color to further identify any significant differences. The researcher determined each child's skin color during the interview. Light skinned children identified the Caucasian doll as the prettiest 12 times out of a possible 20 times. Dark
skinned children identified both the Caucasian doll and the African American doll as the prettiest two out of a possible five times.

Light skinned children identified the ambiguous doll as the smartest eight out of the possible 20 times, choosing the Caucasian and African American dolls six times each. Dark skinned children also chose the ambiguous doll as the prettiest three times out of the possible five, the Caucasian doll was chosen two times.

When asked who they preferred as their best friend, light skinned children chose the Caucasian doll 10 out of the 20 times. Dark skinned children preferred the African American doll as their best friend three of five times.

Light skinned children identified the African American doll as the ugliest 13 times of the 20 times. Dark skinned children equally chose the Caucasian and the African American doll two times.

Light skinned children identified the Caucasian doll as the nicest 13 of 20 times. Dark skinned children identified the African American doll as the nicest one of the possible five times.

When questioned about who they preferred to play with, light skinned children chose the Caucasian doll nine times, and the ambiguous doll eight times. Dark skinned children chose the Caucasian and African American dolls two times each. A significant difference was found when asked which doll the children prefer to play with, p<0.05.

Light skinned children identified with the Caucasian doll when asked who they looked like 11 of 20 times. Medium skinned children identified with the Caucasian doll two of the three times. Dark skinned children identified with the African American doll three of the five times, and two times with the Caucasian doll.

When data was analyzed by sex, males identified the Caucasian doll as the prettiest six of 10 times. Females chose the Caucasian doll eight times, the ambiguous doll four times, and the African American doll six times.

When asked which doll is the smartest, both males and females chose equally the Caucasian doll and ambiguous doll, with males choosing the Caucasian and ambiguous doll four times each, females choosing the Caucasian and ambiguous doll each seven times each. Similarly, males chose the Caucasian doll to be their best friend. However females equally chose all dolls to be their best friends.

When asked which doll is the ugliest, males chose the African American doll seven of the 10 times. Females chose the ambiguous doll six of 18 times and the African American doll nine times.

When asked which doll they look like, males chose all dolls equally.
They chose the Caucasian doll four times, the ambiguous doll three times, and the African American doll three times. Females chose the Caucasian doll 11 out of 18 times.

**DISCUSSION**

Due to the small sample size and the violation of the chi-square cells, it would be difficult to generalize these results to the overall population. However, the results support this study's hypothesis that children choose dolls that are ethnically similar to themselves. Caucasian and African American children were more likely to choose dolls that looked similar to themselves. Latino and Asian children overwhelmingly chose the Caucasian doll as the prettiest, smartest, nicest, who they preferred as their best friend, and who they look like.

Overall, males' chose all three dolls equally as who they thought was smart, who they preferred as their best friend, and who they looked like. Males overwhelmingly chose the African American doll as the ugliest.

The results in this study were inconsistent with Clark and Clark's (1947) original study. In this study, African American children considered the African American doll as the prettiest. They also considered the ambiguous doll as the smartest. As a best friend, African American children chose the African American doll most. When asked which doll was the ugliest, African American children chose the African American doll only once, unlike the results in Clark and Clark's (1947) study, which reported that they chose it most frequently.

**LIMITATIONS**

Limitations in this study included the relatively small sample size. The participant group had a relatively small number of children from minority groups. Due to the small size, many cells in the chi-square were violated.

Future research might focus on children of minority groups. Specifically, Asian and Latino children have been the focus of relatively few studies regarding racial identification and preference.

**CONCLUSION**

The participants in this study were interviewed with a series of questions. The children responded to the questions by choosing one of three dolls, which indicated their answer. The questions established recognition of different ethnic groups, preference and identity. The answers of the children were recorded.

Due to the relatively small sample size, the results in this study cannot be generalized to the population. However they do provide researchers with some of the views that children have of ethnic groups. These results also
provide general views that children view of themselves. Clark and Clark's (1947) study was conducted almost sixty years ago, since that time, African Americans have grown to see themselves positively, and many no longer regard their skin color as bad. This study did not replicate any of Clark and Clark's (1947) original results, therefore presuming that the children in this study do not reject their ethnicity.
REFERENCES
Appendix A

Research Questions

1. Which doll is the pretty doll?

2. Which doll is Caucasian?

3. Which doll is smart?

4. Which doll would you like as a best friend?

5. Which doll is the ugly doll?

6. Which doll is the nice doll?

7. Which doll is African American?

8. Which doll would you like to play with?

9. Which doll do you look like?
Black Power: Advertisers' Images of Black Males in Select Contemporary Magazines

R. Blaine Davis

Abstract

This study examines the portrayals of Black males in Ebony and Essence magazine advertisements in the 21st century. Previous research has shown a tendency to stereotype the roles and features of Blacks in magazine advertising. Current advertising is analyzed to determine the depictions of Black males in the advertising of magazines with predominantly Black readership. Results indicate that advertisers overwhelmingly prefer to use ads with all Black actors in these magazines. A high proportion of the ads were for personal products and entertainment and several depicted Black males in romantic or sexual situations.

Acceptance and equality have been both a goal and stated desire of Black Americans since before the Civil War. From the humble slave to the Supreme Court Justice, Black men in America have asked to be judged "not by the color of their skin, but by the content of their character" (King, 1963). In the 21st century, the images portrayed in the mass media play a pivotal role in how society sees Black men, and how Black men see themselves (Gitter, O'Connell & Mostofsky, 1976; Stempel, 1971). This study will analyze advertising images of Black males in two popular Black magazines to determine the extent of colorblindness that advertisers have employed in this era of anti-affirmative action. To determine if Black stereotypes still exist in social position and occupation, this study will investigate whether or not Black males are pictured as fully integrated in magazine advertising.

Rationale

In recent years, we have seen the dismantling of affirmative action programs in several states including California, Texas and Washington. All three of these states have eliminated affirmative action in state university admissions policies. In addition, there has been a call for a national reversal of all affirmative action laws and policies from officials such as University of California Regent Ward Connerly. Mr. Connerly, among others, has vilified affirmative action as a quota system that was not needed (Wilson, Connerly, and Lewis, 1996).

The argument most often proffered for the elimination of affirmative action is that society should be colorblind, with race playing no part in determining opportunities for advancement and success; however, what
should be and what is are often two very different realities. One benchmark of a society's acceptance and inclusion of all its members is the way those members are portrayed in mass media. Taylor, Lee, and Stern (1995) observed:

Negative stereotypical depiction of minorities or their exclusion from advertisements in mainstream media has been found to have harmful social effects. Expectancy theory (Jussim, 1990) describes the influence of negative expectations, for insofar as advertising portrayals build or reinforce such expectancies, they influence social reality. This may contribute to social problems such as prejudice and inequities in educational and occupational opportunities by encouraging self-fulfilling prophecies (p. 610).

Humphrey and Schuman (1984) made observations similar to Taylor, et.al. when they wrote, "Advertisements can serve as one type of barometer of the willingness of white Americans to accept blacks into the larger society" (p. 551). Thus, if American society has reached a point where all people are perceived equally, this should be reflected and encouraged by depictions in magazine advertisements. An analysis of the images of Black males in Black magazine advertisements may help determine what type of portrayals are being reflected and encouraged. If advertisements are a barometer and encourage self-fulfilling prophecies, the images presented to Blacks of themselves become extremely important in the overall inclusion and acceptance of Blacks into society in general. Black men must see media portrayals of themselves participating in an equal degree with other members of society in order to believe that it is possible for them to achieve equal participation. In other words, when Blacks are depicted in magazine advertising, those depictions should be as varied and all-inclusive as when any other group is featured.

**Literature Review**

Several studies have been conducted over the years analyzing the portrayal of minorities in advertising (Bowen and Schmid, 1997, Chapko, 1976, Colfax and Sternberg, 1972, Humphrey and Schuman, 1984, Kern-Foxworth, 1994). Findings have varied depending on several factors, including operational definitions and the particular medium being analyzed.
One recurring theme in several studies is the use of stereotypes in advertising. Kern-Foxworth (1994) wrote:

*The concept of race and stereotypes associated with it enabled the dominant group to view members of the subordinate group as inferior and to treat them accordingly. Stereotypes were used as a mechanism to reinforce and justify slavery…From the end of the slave era to the culmination of the Civil Rights movement, early advertising artifacts ushered in the Aunt Jemimas, Uncle Bens, and Rastuses and helped maintain the status quo…This situation created a paradoxical dilemma for all black Americans. They were faced with eradicating the fictitious black men and women who embodied eternal servitude (pp. xvii-xviii).*

Kern-Foxworth's book examines the images of Blacks in advertising from the very first advertising featuring Blacks, slave for sale ads and ads for runaway slaves, to the early 1990s.

Many other studies also found stereotyping prominent in advertising (Colfax & Sternberg, 1972; Shuey, King, & Griffith, 1953; Taylor, et al., 1995; Thomas & Treiber, 2000). According to Thomas and Treiber (2000): "Racial and gender stereotypes endure as exaggerated oversimplified images used to sell products" (p. 370). Their study looked at "the continuation of race-gender stereotypes in advertising images by way of the product's suggestive messages, specifically, connotations of higher or lower social status and promises of intangible social rewards" (Thomas & Treiber, 2000, p. 357). The subtleties of how Blacks are included in ads suggest to the readership the proper roles acceptable for Blacks. Thomas and Treiber's study found a high proportion of sex-romance ads featured Blacks, suggesting that stereotypes of Black sexuality persist (p. 369).

Taylor, et al. (1995) examined not only the roles suggested by minority images in advertising, but also the context and implied family life suggested by the depictions. They reported that, "the underrepresentation of African Americans in technical product categories seems to sustain stereotypes related to educational and occupational status" (Taylor, et al., p. 619). The authors conclude that the low percentage of Blacks found represented in technical product ads suggests the stereotype of a poorly educated group. Again, if Blacks are not portrayed as technically capable as other groups, they may not see technology as a viable field for themselves, or be readily accepted into technological positions.

A second area of concern for researchers is the relationship between attitudes of Caucasians and how those attitudes influence the way Blacks are pictured in advertising. For example, Cagley and Cardozo (1970)
conducted a study of the response of Caucasian viewers to integrated advertisements and found that, "under controlled conditions, that the response of whites to advertisements which include Negro principals varies according to the degree of the whites' racial prejudice, and that this response is generalized to products and companies" (p. 39). Cagley and Cardozo suggest that racial prejudice should be taken into account when advertising to Whites because "ads with Negro principals may be less effective than ads with only white principals in influencing whites" (p. 39).

In contrast, Solomon, Bush and Hair (1976) found "the results indicate that marketers should not be concerned with adverse sales resulting from the use of black models in promotional materials because white consumers respond in a similar manner to models of both races" (p. 433).

Other studies appear to endorse a combination of the conclusions discussed previously, suggesting that White consumers respond positively to Black models in advertising; but only if the Black models appear in "non-threatening" roles (Barban and Cundiff, 1964; Choudhury and Schmid, 1974; Cox, 1969; Humphrey and Schuman, 1984; Muse, 1971; Schlinger and Plummer, 1972). The type of roles viewed as acceptable for Black models were exemplified by a 1972 study conducted by Colfax and Sternberg.

The analysis conducted by Colfax and Sternberg (1972) found Blacks to be depicted mainly as recording artists, entertainers, celebrities, children, women or foreigners. Black males were most often in need of charity and were seldom pictured in equal status with Whites (p. 17). The authors concluded that "mass circulation magazine advertising reflects, if not precisely and not always accurately, the values of white America, as it conveys racial stereotypes, subtle and probably unintentional, to tens of millions of predominantly white readers - and consumers" (p. 18). These types of portrayals served to reinforce the limited ideas of the capabilities of Blacks in society.

Humphrey and Schuman (1984) found "White authorities are disproportionately shown aiding poor blacks or supervising black children. Furthermore, white attitudes toward social relations with blacks are less favorable than are those with regard to occupational equality, and have improved only slowly" (p. 563). This study was conducted 12 years after the Colfax and Sternberg (1972) study, and found that ads continue to stereotype Blacks as poor and uneducated.

Qualls and Moore (1990) studied the impact of racial differences between persons depicted in ads and persons viewing those ads. They stated "White consumers are more favorably disposed toward ads featuring
white actors, and black consumers are more favorably disposed toward ads featuring black actors" (p.150). However, Cox (1970) alternatively suggested "Over time, integrated advertising may be able to reduce racial stereotypes, which could lead to reduced prejudices" (p. 41). This statement reiterates the suggestion of the National Advisory Commission on Civil Disorders (1968) which said that Whites would eventually get over any surprise at seeing Blacks in advertising and begin to accept the idea as routine (p. 386). The authors stated their concern regarding the effects advertisements had on consumers:

- The absence of Negro faces and activities from the media has an effect on white audiences as well as black. If what the white American reads in the newspapers or sees on television conditions his expectation of what is ordinary and normal in the larger society, he will neither understand nor accept the black American. (Report of the National Advisory Commission on Civil Disorders, 1968, p. 383)

These studies support the conclusions of many other studies that found advertising and attitudes are reflective of, and dependent on each other (Colfax and Sternberg, 1972; Humphrey and Schuman, 1984; Jussim, 1990; Kern-Foxworth, 1994). Attitudes reflect and influence advertising and advertising reflects and influences attitudes.

The shaping of society's attitudes is done not only by the perceived status or occupation of Blacks in advertising, but also by the perceived attractiveness of those Blacks pictured in ads. Recent research has focused on relative attractiveness of Blacks in advertising, using skin tone and similarity to Caucasian features as indicators of attractiveness. Strutton and Lumpkin (1993) report "Empirical evidence dating to the 1950s suggests stereotyping based on skin color is evident in the selection of black models in advertising" (p. 507). Their study examined the possible psychological effects of the "large percentage of advertisements with black models possessing features more Caucasian than Negroid" (Strutton and Lumpkin, 1993, p. 507). These findings are important when coupled with Keenan's (1996) statement that "if one accepts a premise that advertising can create or reinforce standards, then the heavy use of Caucasian-like features in advertising may reinforce a negative self-image for those who do not 'look like' the advertisements" (p. 910). This means that people who do not see accurate representations of themselves in ads may develop lower self esteem about their own appearance. Thus, it is important to understand how Blacks are depicted in Black magazines because these depictions may have an influence on the self concept of Black readers.
In a study that rated skin tone on a four point scale, Chapko (1976) reported "With respect to racial composition, blacks who appear with whites seem to be darker than those who appear alone" (p. 178). Gitter, O'Connell, and Mostofsky (1976) also found a difference in the way Black males and females were portrayed:

**Overall the results show two main findings concerning the ideal facial appearance of blacks over the 17 years investigated by this study.**

First, the facial appearance of both male and female models tends to be more Caucasian than Negroid. This is true of each of physiognomy, hair texture and skin color. Second, while the male models tended, with time, to become more Negroid in appearance.

(p. 550)

A more recent study of ads appearing in *Ebony* magazine reported "The persistence of light-skinned and mixed-race models with relaxed or straight hair styles, indicates that the Afrocentric values asserted during the 1960s and early 1970s have failed to overcome Eurocentric norms in fashion and somatic acceptability, which are still dominant in the 1990s" (Leslie, 1995, p. 433). So, as far as advertising is concerned, an attractive Black person is one who looks White to some degree. If this continues to be true, the effects could be detrimental to the acceptance of all Blacks in society, regardless of individual features.

**Problem Statement**

Considering the observations of previous researchers, attempting to further research in this area leads to the question of how to proceed. If it is true that attitudes affect advertising and advertising affects attitudes, a thorough examination of the images of Black males in Black magazines may provide some insight into current attitudes of advertisers toward Blacks. This study focuses on two popular Black magazines, *Ebony* and *Essence*, to obtain an idea of current attitudes portrayed in the ads in these magazines. This study will look at both the roles featuring Blacks, and the features of the Black males pictured. Reasoning that advertisers expect the majority of consumers viewing these two magazines to be Black, an analysis will help determine the portrayals advertisers use when they expect a Black audience. Although many studies have focused on the portrayal of Blacks in mainstream general audience magazines when a White or integrated audience is expected; and other studies have been conducted to determine percentages of Blacks in magazine ads; and further studies have compared the way Blacks are depicted to the way Whites or other minorities are depicted: So far none of the studies have focused strictly on the way Black males are depicted in magazines aimed at Black consumers.
This study will fill that gap. The working research question is How are Black males depicted in advertising in *Ebony* and *Essence* magazines?

**Methodology**

Because this study focuses on current portrayals of Black males, only magazine issues dated from January 2001 to June 2003 were analyzed. Seven advertisements from each issue, featuring at least one Black male were selected and analyzed. A total of 420 advertisements were analyzed. Advertisements were selected based on prominence in the following order:

- a) inside front cover
- b) outside back cover
- c) inside back cover
- d) page facing inside back cover
- e) middle page (center fold)
- f) begin sequentially from inside front cover and continue to end of issue

Each ad was coded according to the operational definitions for this study (see Appendixes A, B and C). Operational definitions were designed with two sections, each using a different type of variable.

Section one uses descriptive variables corresponding to specific numbers under each category. This section was used to determine characteristics of the advertisements. One hundred twelve ads (25%) were coded independently by a research assistant and by the investigator, and Cohen's Kappa was used to check intercoder reliability for this section of the instrument, resulting in extremely high reliability. The investigator then coded the remainder of the ads selected for the study.

Section two uses continuous variables on Semantic Differential Scales to measure physical features of the models in the advertisements selected. The features measured were thickness of lips and width of nose at the base, hair texture and coarseness, and shade of skin color. These features were measured on scales of 1 to 7 with "1" representing Caucasian-like features and "7" representing Black/African-like features.

One hundred twelve (25%) ads have been independently coded by a research assistant and by the investigator. Initial intercoder reliability numbers were below acceptable levels, so the two coders met to further define specific coding parameters. Forty-two advertisements were then coded independently by the coders, resulting in much higher reliability outcomes, with an r of .74, .98, and .89 respectively for the three scales in this section (Appendix C).

The advertisements analyzed were counted and coded using modified versions of procedures used by Kassarjian (1969), Gitter, O'Connell and
Mostofsky (1976), Leslie (1995), and Keenan (1996); as well as procedures developed specifically for this study.

**RESULTS**

The first research observation denoted the type of advertisement featuring the Black male. Three items had outcomes greater than the expected $n = 60$. Those were personal ads ($27.6\%; n = 116$); entertainment ads ($24.3\%; n = 102$); and service ads ($18.6\%; n = 78$). The remainder of the items were below expected levels, ranging from $3.6\%; n = 15$ to $12.1\%; n = 51$.

The second observation analyzed the prominence of the Black male in the advertisement. The Black male was featured equally as other actors most of the time ($52.9\%; n = 222$); featured centrally in the ad only slightly less ($42.9\%; n = 180$); and was a background figure the least amount of the time ($4.3\%; n = 18$). Pearson's Chi-Square test yielded results of $\chi^2(2, N = 420) = 7.140, p = .028$.

The racial make-up of the advertisements were heavily weighted toward all black actors ($84.8\%; n = 356$). The ads featured a mixture of races a small percentage of the time ($11\%; n = 46$).

The next three observations determined whether the Black male in the ad was a celebrity ($25.5\%; n = 107$); whether he was a sports figure ($9\%; n = 38$); and whether he was implicitly or blatantly portrayed in a romance or sex situation ($35.2\%; n = 148$).

For the final three research observations, an independent samples t-test revealed that the observations for facial structure of $t(418) = 3.92, ? < .001$, mean difference $= .5381$, were significantly different from those for skin tone and hair texture.

**LIMITATIONS**

One of the original intents of this study was to determine in what type of occupations Black males were depicted in magazine advertisements. The initial observation instrument contained an item to collect this information. However, the vast majority of ads did not contain any indication of the Black male’s occupation prompting the investigator to drop the item from the study. Not being able to collect this information limits the total picture of how Black males are portrayed.

Other limitations include the amount of samples of advertisements from each magazine. Time constraints forbade the inclusion of each ad in each magazine which may have provided a more complete picture of the images of Black males presented.

Because prominence of the ad, as determined by the description in the methods section, dictated which advertisements were included in the
study, several ads were included more than once, further limiting a more diverse sample of portrayals.

**Conclusion**

As indicated in the results section the type of ads featuring Black males were most often for personal products or for some type of entertainment. These findings are consistent with those of Colfax and Sternberg (1972), and may indicate a continued tendency to stereotype Black males especially with regard to entertainment ads.

The Black male was portrayed equally or centrally in the ads a total of 95.7% of the time. This may actually be a function of selection of ads to analyze because the depiction had to be clear enough to lend itself to analysis.

Racial make-up of the advertisements indicated a preference of advertisers to use all Black actors in these 2 magazines. This may be because the advertisers believe the audience will relate better to these types of ads. A huge drawback to this type of advertising is that the reader sees Black people only interacting with other Black people, which may help create more self-fulfilling prophesies and reinforce prejudices. Cox (1970) suggested that more integrated advertising could possibly reduce stereotypes and prejudices (p. 41). This observation is true for magazines aimed at Black readership as well as those aimed at any other audience.

The investigator hypothesized that sports figures or activities would compose a large percentage of the advertisements in the study but, this hypothesis was not confirmed. Only 38 of the 420 ads analyzed contained any sports figure or activity. An interesting topic for future study would be to check this hypothesis in magazines targeted to a younger Black audience.

A celebrity image was used 107 times indicating that some advertisers prefer to associate their products or services with well known figures. An interesting note here was the use of historical celebrity images to sell modern products. For example, the image of Dr. Martin Luther King Jr. was used in ads for McDonalds and Toyota.

The Black male in the ad was portrayed romantically or sexually 148 times. Thomas and Treiber (2000) also found a high proportion of ads portraying romance and sex. They concluded that this type of ad suggests a stereotype of Black sexuality (p. 369).

Facial structure, hair texture and skin color were analyzed to determine if the actors chosen for the ads had features more closely resembling White European (1) or Black African (7) ancestry. The results were different than expected and they indicated that each of the 3 measurements occurred independent of the other 2. In other words the
Black male may have had tight, curly hair but, relatively light skin tone. Or he may have had dark skin and thin lips or nose. Overall, the means for these three observations were slightly weighted toward Black African features.

Finally, future studies in this area could include observations of the subjects’ style of dress or perceived social status as further indicators of the type of portrayals being promoted.
REFERENCES


Appendix A. Advertisement Characteristics

Circle one: **EB or ES**  Mo/Yr ___ / ___  Ad #_____  Product/Co.____________

A. Type of Advertisement*
1  2  3  4  5  6  7

B. Prominence of Black Male in ad*
1  2  3

C. Racial Makeup*
1  2  3

D. Celebrity Status*
1  2

E. Sports Status*
1  2

F. Romance Status*
1  2

* See Key

---

Appendix B. Key for Items in Advertisement Characteristics

1. Characteristics of the advertisement

   A. Type of Ad
      1. Cigarettes
      2. Alcohol
      3. Entertainment (books, music, movies)
      4. Personal product (hair care, toothpaste, clothes)
      5. Automobiles
      6. Service (insurance, airline, public service, etc.)
      7. Food

   B. Prominence of Black male in the ad
      1. Background figure
      2. Equally depicted as other characters
      3. Central or prominent figure

   C. Racial Makeup
      1. All characters Black
      2. Separate picture (panel ad, compact disc) with White and Black individuals next to each other, Blacks
         and Whites not presented in the same scene
      3. Mixed (Blacks and non-Blacks in the same scene)

   D. Celebrity Status
      1. Black male is a celebrity/media personality
      2. Black male is not a celebrity/media personality

   E. Sports Status
      1. Black male is a sports figure (well known athlete, or someone portrayed playing or involved in sports)
      2. Black male is not a sports figure (not known for sports, not portrayed playing or
         involved in sporting activity)

   F. Romance Status
      1. Black male is portrayed romantically (romantic setting, implied or stated)
      2. Black male is not portrayed romantically (non-romantic setting, no implied
         or stated romance or sex in advertisement)
Appendix C. Model Characteristics

A. Facial Type (physiognomy)

| Thin lips, Narrow nose | 1  | 2  | 3  | 4  | 5  | 6  | 7  | Thick
|------------------------|----|----|----|----|----|----|----|-------
| Lips, Wide Nose        |    |    |    |    |    |    |    |       |

B. Hair Type

<table>
<thead>
<tr>
<th>Smooth, straight</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Tightly curled, coarse</th>
</tr>
</thead>
</table>

C. Complexion

<table>
<thead>
<tr>
<th>Light-skinned</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Dark-skinned</th>
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Wide Angle Achromatic Prism Beam Steering for Infrared Countermeasures and Imaging Applications: Solving the Singularity Problem in the Two-Prism Design

Henry Garcia

ABSTRACT

A two-rotating-prism system is an inexpensive lightweight two-dimensional beam steering device. Moreover, it can be designed to be achromatic over a wide spectral range. However, the current two-prism design has a singularity problem at the center of the "viewpoint." If a beam is to be steered through the center, one of the prisms must make an instantaneous 90° flip. This research solves this problem by adding a third prism to the system. The apparatus is optimized by minimizing dispersion effects as well as predicting the theoretical speed and manner in which the beam may be steered.

Protecting aircrafts from infrared (IR) guided missiles is a high priority for the U.S. Air Force, and, recently, the civil aviation industry. Aircrafts under missile threat need to have the capability of defending themselves against the popular IR guided missile. Highly mobile, low cost IR missile threats are diverse, and can be countered with efficient, affordable, closed-loop IR countermeasure (IRCM) systems. Modern IRCM systems are designed to slew a stabilized pointer along the threat's line of sight in order to passively detect and track the threat in the 2-5 µm mid-wave IR (MWIR) spectrum. Once a course track is achieved, a precise, fine track mode centers the threat in the IRCM system's field of view. The IRCM system then jams or destroys the threat by projecting a powerful, often modulated, narrow divergence MWIR laser beam onto the missile's seeker head. Using traditional optical components, it is difficult to design an IR imaging system that does not protrude from an aircraft, spacecraft or satellite body and yet is capable of "scanning" a wide field of view with great precision. A non-protruding apparatus reduces wind resistance and improves stealth capabilities while a wide field of view allows for maximum protection.

To address this issue, the thrust of this research is centered on the design and optimization of a wide angle broadband MWIR laser beam steering apparatus comprised of three rotating achromatic prisms. The challenge is to design a prismatic beam steerer that is capable of steering to at least 45°, while remaining achromatic over the entire 2-5 µm MWIR spectrum.
LITERATURE REVIEW

The concepts of prismatic beam steering and achromatic prism design is well documented, however, their application to MWIR countermeasures presents several unique challenges. For example, the thin prisms usually chosen as achromatic prisms are designed to operate only in a narrow portion of the visible wavelength spectrum (~ 400-700 nm) (Smith, 2000). As mentioned previously, the prismatic beam steerer must be achromatic over the entire 2-5 µm (MWIR) spectrum. Unfortunately, these small apex angle prisms have been used with the addition of beam expanders, phase retarders and planar waveguide couplers, resulting in an achromatic range of only 110 nm (Fabricius, 1991; Spaulding & Morris, 1992).

*Chromatic dispersion*, the phenomenon whereby the velocity of light propagation in a material varies with wavelength, must also be minimized. Duncan et al. (2003) has shown how first order chromatic dispersion can be reduced by the use of doublet prisms (in this paper, *first order dispersion* is referred to as *dispersion*). For a desired average maximum steering angle, the optimum apex angle for a doublet prism, which ensures that secondary dispersion is minimized, can also be calculated (Duncan et al., 2003). Secondary dispersion is not addressed in this study.

Duncan, Bos & Sergan (2003) completed the reduction of dispersion for a two-prism design. However, the two-prism system can be used only for continuous target tracking outside of a 2° cone at the center of the prism system's field of view, where a speed of 360°/sec is needed to achieve a 1 rad/sec slew rate (see figures 1 and 2). Around the zero axis, i.e. inside the 2° cone, the two-prism system has a singularity point where crossing the zero position requires a sudden 90° prism position change (Duncan et al., 2003). Also, achromatic prism laser beam steerers are not typically designed to steer laser beams at more than 20° off axis (Melles Griot [MG], 1999). A new design is needed to fit the desired specifications of a prismatic beam steerer that is capable of steering to at least 45°.

HYPOTHESIS

A solution to the singularity problem can be obtained effectively by adding an additional degree of freedom to the system. Designing such a system is the primary goal of this study. Employing this new design, the beam can be continuously steered in any direction without a 90° swing. There are a few downsides to this configuration: 1) it uses an additional rotator; 2) requires a complicated algorithm to find the shortest path between two points; and 3) the minimization of dispersive characteristics is more difficult.
METHODODOLOGY

This study takes the methods outlined in Duncan et al. (2003) and recalculates the desired apex angles for the minimization of dispersion. The values and equations are calculated using a three-prism design rather than a two-prism design (discussed later in this section). Through non-experimental means, the calculations of chromatic dispersion minimization along with various characteristics of the apparatus, such as maximum steering angle, etc. are derived.

This research also revises a description of the basic concepts of rotating prism beam steering. Several issues relating to the azimuth and elevation angles into which light is steered as a function of prism rotation angles is also studied. Next, the geometric relationships describing the maximum steering angle is derived, which in turn, leads to a discussion of first order dispersion reduction.

Determination of the Maximum Steering Angle

The maximum steering angle, $\delta(\lambda)$, is the maximum angle at which an incident beam may be steered, as illustrated in figure 3. This angle is derived using multiple applications of Snell's Law of Refraction.

At the beginning of the design process, a configuration for the three prisms was chosen. The two options for a three prism design are shown in figures 3a and 3b. Dispersion must be minimized, and it is clear that if the configuration in figure 3b is used, there will be an extra interface at which dispersion occurs, namely the first interface. For this reason, this research uses the configuration in figure 3a for all further calculations.

In order to derive the maximum steering angle, this researcher first stated the naming conventions to be used. $\delta_{x,n}(\lambda)$ refers to the deviation angle where $n$ refers to the prism number, i.e. 1,2 or 3, and $x$ says whether it is the incident (i) or the exit (o) angle. $n_1$ and $n_2$ refer to the index of refraction of the two materials used in the two sections of the prism. This research assumes that $n_1 < n_2$ for all calculations. Lastly, $\alpha$ and $\beta$ refer to the apex angles of the two sections of the prism.

The maximum steering angle is:

$$
\delta_{n,3} = (\alpha - \beta) + \sin^{-1} \{n_2 \sin[\beta - \sin^{-1} (\frac{n_1}{n_2} \sin[\alpha - \sin^{-1}[\frac{\sin \delta_{i,3}}{n_1}]])]\])
$$

(1)
Under a small angle assumption, i.e. $\alpha$ and $\beta$ less than $20^\circ$ (an assumption that will shown to be valid), equation (1) becomes:

$$\delta_{o,3} = \beta(n_2 - 1) - \alpha(n_1 - 1) + \delta_{i,3} \quad (2)$$

Similarly, the exit angle of the second prism is:

$$\delta_{o,2} = (\beta - \alpha) - \sin^{-1}\left\{n_1 \sin[\alpha - \sin^{-1}\left(\frac{n_2}{n_1} \sin[\beta - \sin^{-1}\left(\frac{n_2}{n_2} \sin[\delta_{i,2}]\right)]\right)]]\right\} \quad (3)$$

Again, using a small angle assumption:

$$\delta_{o,2} = \beta(n_2 - 1) - \alpha(n_1 - 1) + \delta_{i,2} \quad (4)$$

Combining equation 4 and equation 3 and the geometry that $\delta_{o,2}(\lambda) = \delta_{i,3}(\lambda)$ yields the maximum steering angle of:

$$\delta_{o,3} = 2\beta(n_2 - 1) - 2\alpha(n_1 - 1) + \delta_{i,2} \quad (5)$$

Finally, as can be seen in figure 3a, the first prism has the same orientation as the third prism. As a result, the equations are the same with the incident angle equaling zero:

$$\delta_{o,1} = (\alpha - \beta) + \sin^{-1}\left\{n_2 \sin[\beta - \sin^{-1}\left(\frac{n_1}{n_2} \sin \alpha\right)]\right\} \quad (6)$$

Under a small angle assumption, equation (6) becomes:

$$\delta_{o,1} = \beta(n_2 - 1) - \alpha(n_1 - 1) \quad (7)$$

Combining this with equation (5) yields the final maximum steering angle for a 3-prism beam steerer:

$$\delta_{o,3} = 3\beta(n_2 - 1) - 3\alpha(n_1 - 1) \quad (8)$$

With the maximum steering angle now derived, equation (8), it is now possible to minimize the effects of dispersion.
Minimization of Dispersion

Variation of the wavelength changes and the deviation angle must be determined in order to find the apex angles at which dispersion is minimized. In the maximum steering angle equation, the only dependence on wavelength, \( \lambda \), is \( n_1 \) and \( n_2 \). Therefore, to find the local extrema, the derivative of equation (8) is set equal to zero, yielding:

\[
\beta = \alpha \left( \frac{n_1'(\lambda_c)}{n_2'(\lambda_c)} \right) \tag{9}
\]

In equation (9), \( n_1'(\lambda_c) \) is the derivative of the index of refraction with respect to wavelength evaluated at some wavelength, \( \lambda_c \). As a result, by choosing apex angles that are related by equation (8), dispersion will be minimized.

Equation (9) shows that the relationship for the apex angles of the prisms to minimize dispersion is the same as for the two-prism design outlined in Duncan et al. (2003). They have shown that for an optimized system with \( \lambda_c \) chosen to be in the middle of the MWIR spectrum, \( \lambda_c = 3.5 \) microns, the desired materials are Amorphous Material Transmitting Infrared Radiation (AMTIR-1), for the low index material \( n_1 \) and Germanium for the high index of refraction material, \( n_2 \). The relevant data for these materials are:

\[
\begin{align*}
n_1 &= 2.5449, & n_1' &= -0.0286 / \mu m \quad (AMTIR-1) \\
n_2 &= 4.0308, & n_2' &= -0.0203 / \mu m \quad (Germanium)
\end{align*}
\]

Plugging these values into equation (9) yields:

\[
\frac{R}{\alpha} = 1.4089 \tag{10}
\]

Limitations

Due to financial constraints, all of the calculations presented in this research are theoretical because there is not any experimental confirmation of the values calculated in this research. However, the physics governing these calculations has been confirmed and tested tediously, thus leaving small possibility for error in this analysis (Hecht, 2002).

Also, due to the time constraints of the McNair Scholars Program, some useful parameters have been left for a future research paper. Some
calculations that may prove useful are: a minimization of a different flavor of dispersion know as secondary dispersion, an algorithm for the shortest path between two points/configurations and possibly a discussion on optimum glass characteristics for the 3-prism design.

**Conclusion**

It has now been shown that the effects of dispersion can be minimized for a three rotating prism beam steering system using the relationship in equation (10). As a result, a third prism may be added to the former two-prism design to allow full visibility throughout the desired 90° cone without losing any of the important dispersion minimization characteristics.

This new design is an important addition to wide-angled prism beam steering, because it eliminates blind spots on the necessary visible range, a significant factor to accurately defend against missile threats. As a result, this proposed three-prism design is an important addition to the U.S. Air Force’s defense capabilities.
Appendix: Figure 1. Visibility of the two-prism design

Figure 2. Visibility of the two-prism design
Figure 3a. Illustration of the maximum steering angle option A

Figure 3b. Illustration of the maximum steering angle option B
REFERENCES
Gender Role Identity as Portrayed in Children's Cartoons

Tara Elise Gould

Abstract

This study examines whether or not cartoons have an affect on gender role identity in children. Other researchers have found that gender role stereotypes are prevalent in cartoons. The present study replicates the findings that address gender role issues in children, and then extends the research by studying both male and female preschoolers (four and five years of age). The children were observed while watching pre-selected cartoons, and a survey was then administered to them. This research found that children relate to cartoon characters, and that they may obtain part of their own identity from watching these programs. The present study found that children's television viewing habits can affect their gender role identities.

On the weekends, especially on Saturday, there are approximately 450,000 children viewing television at any given time. During the week, many children are entertained for long periods of time by some types of media, mainly cartoons on television. Research strongly indicates that television plays a very important role in children's socialization process (Liebert, Sprafkin, and Davidson, 1982; also see Chu & McIntyre, 1995).

The focus of this research is to explore whether cartoons on television can influence gender role identity in young children. Although similar hypotheses have been the subject of attention in the last thirty years, no findings suggest that the cartoons shown on television affect gender role identity in children, only that gender role stereotypes are shown in television cartoons. Additionally, no previous research used children as subjects to determine if they form their own gender role identities from the cartoons they view. This information is important to seek out, because cartoons are the preferred entertainment for children between the ages of 18 months and two years (Hapkiewicz, 1979).

This research expands on a previous study by Donna Chu and Bryce T. McIntyre (1995), which identified gender roles within cartoons, noting that male characters show up more often than female characters in lead roles, and that male characters have more speaking lines than female characters do. Chu and McIntyre did not look at how children perceived these cartoons or what gender role information they observed from watching them. This research focuses on these issues.

Research has shown that children model aggressive behavior, and prosocial behavior that they see on television (Barcus, 1983), mainly in
animated cartoons (Forge & Phemister, 1987). When dealing specifically with gender role identity, research has shown that children imitate same-sex gender characters more than they do opposite-sex gender characters (Courtney & Whipple, 1983). Therefore, as Remefedi (1990) pointed out, cartoons may play an extremely important role in modeling gender behavior.

**Cognitive Development of Children**

According to Piaget (1966), children go through stages of cognitive development in the way they perceive, organize, and think about stimuli in and around their environments (Ginnsburg, H. & Opper, S. 1998). This information can be pertinent to understanding how children of different ages view the characters within cartoons. A brief outline of Piaget's Stage Theory follows.

Piaget described four stages of cognitive development in children as: Sensorimotor (birth to 2 years old); Preoperational (2 to 7 years old); Concrete Operational (7 to 11 years old) and Formal Operational (11 through adulthood). Children's thinking in each of these stages is vastly different. For example, in the Preoperational stage, children are learning the concept of object constancy (something still exists even if you cannot see it) and volume constancy (the idea that you can have two glasses of different sizes -short and round versus tall and thin- but they can hold the same volume of liquid). In the Concrete Operational stage, children can comprehend that even though the shape of the glasses is different, the amount they hold (volume) is still the same. In the Formal Operational stage, children are able to use formal logic to consider problems in the abstract. They can now take a general situation and come up with different theories to determine the outcome, or come up with a theory (the cause) that leads to the outcome.

Knowing that children go through different stages of cognitive development as they grow older, and that their self concepts start developing around the Preoperational stage, the present study considers one variable (children's cartoons) and how it might affect children's concepts of gender role identity.

**Identity Development**

As Huntmann and Morgan (2001) noted, "identity" is not a new concept, but in recent years it has taken on new layers of meaning, including those of social, political, and psychological importance. These researchers found that most people think of identity as something that resides somewhere within an individual, some profound and all-
encompassing sense of the self that remains relatively fixed and stable once it is attained, recognized, or discovered. One may discover his or her identity by maturation, deep introspection or "soul searching." The social aspect of identity can be seen as a way to adopt an identity by virtue of identification with a person or group. It can also be seen as a constant struggle between one's self and one's social sense of identity. For example, children may see cartoon characters as themselves (Huntmann and Morgan, 2001). A specific example is in the movie, "Daddy Day Care," in which a little boy wears the costume of the comic hero "Flash Lightening" throughout the movie. He never takes the mask off, refuses to answer to his real name and only acknowledges a person if he or she called him "Flash."

Gender Role

Gender role is defined as a "collection of behaviors or activities that a given society deems more appropriate to members of one sex than to members of the other sex" (Durkin, 1985). Cross culturally, the specifics of gender role stereotypes vary. Durkin (1985) reported that some societies have rigid sex roles that strictly determine the male and female role, and some do not; the United States does not have a rigid gender role standard, and the standards that do apply may vary from household to household. This observation leads researchers to believe that gender roles are, in part, socially determined. Chu and McIntyre (1993) added that age is a factor in gender role determination and that gender role expectations are not constant from childhood to old age. Males and females are expected to behave differently as they age. Because gender roles are determined by the society in which they exist, certain characteristics shown in cartoons affect children's patterns of behavior, which can be manifested in actions, relationships, appearances, and personal goals throughout their lives (Chu, D.; McIntyre, B., 1995).

Jean and Peterson (1988) refer to gender as "a whole complex of social beliefs, attitudes, behaviors, occupations, activities, and the like that are typically associated with females or with males in a given society." Gender is what we see, hear, feel, perceive and comprehend about maleness and femaleness. It is used to designate the cultural, social, and psychological variations attributed to the two sexes, while "sex" refers to biological differences (Peterson and Jean, 1988, P.1). Tuchman (1978) defined gender role stereotypes as set portrayals of sex-appropriate interests, skills, behaviors, and self perceptions" (Chu, D; McIntyre, B., 1995, P. 207).

Basow (1980) explained gender role stereotypes as "oversimplified conceptions" (Chu et al., 1995, P. 207) pertaining to males and females that
change over time and across cultures. This explanation suggests that gender role stereotyping is learned. Basow (1980) gathered results of prior research and produced a summary of the findings. He found that sex comparisons on physical traits, cognitive abilities, personality and temperament, and sexual behavior showed few differences between males and females. Archer and Lloyd (1985) extended these findings by adding that there are more differences within males and females than there are between them (Chu et al., 1995).

Methodology

This study expands on the previous research by Chu and McIntyre (1993), as discussed previously. Because the cartoons used by Chu and McIntyre contained contents showing aggressive behavior, this researcher chose to use two different cartoons that showed non-aggressive behavior to the children participating in this study. Prior to beginning the study, this researcher obtained permission from the Human Subjects Committee and from the Associated Students' Children's Center at the California State University, Sacramento (CSUS) to use the children at the CSUS Associated Students' Children's Center as participants in this study. The children were also told of the research and asked if they would like to participate by watching a few cartoons and answering a few questions about the cartoons. The parents of the participants gave signed permission that stated that their children were allowed to participate in school activities, including studies and research.

Participant observation was completed on May 14, 2004, using 14 four- and five-year old boys and girls who watched videos of the cartoons "The Magic School Bus" and "Arnold". These videos were approved by the CSUS Associated Students' Children's Center and the Human Subjects Committee prior to children viewing them.

After the children watched the videos, a survey consisting of 11 questions was administered to them that asked questions about their perceptions of the gender role identities of the characters in the cartoons. The objective was to find out which character(s) they identified with and why. The participant observation and survey completion lasted approximately two hours. Each child was asked the same questions to ensure the objective coding and reliability of the data. The data were analyzed using the SPSS software program.

Materials

This study used a questionnaire developed by this researcher after reviewing previous studies as guidelines. Two videotaped cartoons, a videotape recorder and a television were also used. Participant responses
were recorded in a notebook by this investigator. Snacks and drinks for the children were distributed after the viewing of the cartoons to make the study a positive and fun event.

The SPSS software program was used to analyze the data from the children's responses to determine whether the children recognized the gender roles of the characters within the cartoons, and if they identified with the characters because of the portrayed gender roles.

FINDINGS

Of the 14 participants, 12 identified with the same gendered cartoon character and labeled him/her as their favorite character. Table 1 and 2 show Pearson's Correlation Scale as: \( r (14) = .69, p < .01 \). The results of a bivariate correlation between the gender of the participants and the gender of the participant's favorite character seen in the cartoon show that the two variables correlate. This finding supports the stated hypothesis that children identify with same gendered characters and gain gender role identity from cartoon characters. The significance of the correlation is less than .05 \( (p < .05) \), so the null hypothesis of no association is rejected. This researcher can thereby state that there is at least a weak association between the gender of the participant and the participant's choice of a favorite cartoon character. The positive correlation indicates that children relate to cartoon characters that are of the same gender as themselves. This supports the theory that children do gain some type of gender role identity through viewing cartoons.

DISCUSSION

This study used children as the main variable so it could identify from where children receive influence on their gender role identity. The findings indicate that children identify with characters of the same gender through several means (clothing, voice recognition, and display of behaviors), and it can be inferred that children gain some type of gender role identity through the viewing of cartoons. In order to gain a full understanding of how children shape their identity during development, additional research needs to be completed in this area. This study will help future researchers determine how children develop their gender role identity.

LIMITATIONS

This correlational study is limited by its small sample size, and it is not causational in design. Therefore, it cannot support the statement that children are influenced solely by cartoons when developing gender role identity. Another limitation of this study is its failure to acknowledge that children receive gender role identity information from other influences,
such as peers or family members. In today's society, children seek information and knowledge from many different sources. Researching other influences on gender role identity would make an additional contribution to the field.

**CONCLUSION**

In future studies, the sample size should be enlarged so results reflect cartoon influences on a more diverse population of all children. It would be beneficial, although very difficult, to follow the same children from birth through age five, for a longitudinal perspective. Another suggestion for future study is to conduct a cross cultural study of children to see if the effects of cartoons on gender role identity are universal or culturally influenced.
REFERENCES


Goldstein, Jeffrey (1988). *Why We Watch: The Attractions of Violent*


### Table 1

**Descriptive Statistics**

Means and Standard Deviations on the measure of Gender of Participant and Gender of chosen favorite cartoon character in cartoons

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
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<td>.497</td>
<td>14</td>
</tr>
<tr>
<td>gender of favorite character in cartoon</td>
<td>1.36</td>
<td>.497</td>
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### Correlations(a)

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<tr>
<td>sig. (2-tailed)</td>
<td></td>
<td>.006</td>
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**Correlation is significant at the 0.01 level (2-tailed).**  

a. Listwise N=14
### Table 2

<table>
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<th>Gender of Participant</th>
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<tr>
<td>Female</td>
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</tr>
<tr>
<td>Total</td>
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<td>14</td>
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#### Crosstab of Gender of Participant and Gender of Cartoon Character

<table>
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<tbody>
<tr>
<td>Male</td>
<td>88.9%</td>
<td>11.1%</td>
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<tr>
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<td>64.3%</td>
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### Table 3

#### Symmetric Measures

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<th>Measure</th>
<th>Value</th>
<th>Asymp. Std. Error(a)</th>
<th>Asymp. T(b)</th>
<th>Asymp. Sig.</th>
</tr>
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<tr>
<td>Phi</td>
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<td>.010</td>
<td></td>
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<tr>
<td>Cramer's V</td>
<td>.689</td>
<td>.010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson's R</td>
<td>.689</td>
<td>.203</td>
<td>3.292</td>
<td>.006(c)</td>
</tr>
<tr>
<td>Spearman Correlation</td>
<td>.689</td>
<td>.203</td>
<td>3.292</td>
<td>.006(c)</td>
</tr>
</tbody>
</table>

N of Valid Cases: 14

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

### Table 4

![Graph showing significance in participant's gender and gender of cartoon character chosen as favorite](image-url)

- **Gender of Participant:** Male, Female
- **Gender of Favorite Character:** Male, Female
The Impact of Race and Gender on Income Earnings: A Multivariate Analysis

Rebecca Romo

Abstract

Guided by an intersectional theory, it is hypothesized that women of color are significantly disadvantaged by the relational and intersecting effects of race, gender and class inequalities. This study uses existing data from the 2002 General Social Survey, which is a national random sample of adults. This study analyzes the impact that race and gender have on annual personal income. A multivariate analysis examines the variance that race and gender account for in women of color's income, as compared to white women and men. This analysis controls for the following individual characteristics: educational attainment, age, and hours worked per week.

There is an increasing wealth gap between the rich and the poor populations in the United States (Aubry 1998). This trend is observed through the income disparities among groups of people. Minority females, for example, experience severe obstacles in the labor market, such as income inequality, because of class and racial oppression (Segura 1990). Segura (1990) states, "Chicanos as a subordinated minority group in the United States historically have been denied political power and relegated to inferior jobs relative to the white population" (p.47). Taken altogether, minority women, because of race and class are subordinate to men (Segura 1990). Given this triple oppression based on class, race, and gender, this research examines the impact of race and gender on income earnings among minority women in relation to white women and men. This study also tests the human capital theory, which emphasizes individual factors, such as formal education, vocational education, and on-the-job training experience that affect income (Avalos 1996).

The main objectives in this study are to determine the net affect of race and gender on women of color's earning power, and to establish links between statistical trends and the history of income inequalities among women of color. This study hypothesizes that race and gender have significantly negative impact on an individual's earning power.

To begin the analysis of income disparities among minority females in comparison to white females and males, this research first reviews literature focusing on the history of how income disparities among groups of people first started in the United States, and then examines theoretical frameworks in the fields of class, gender, and race in relation to working minority women.
When and where does income inequality among groups of people in the United States originate? Previous literature has broadly reviewed the labor history of women of color. Glenn (1994) provides some insightful history in her analysis of racial and ethnic women's history of labor in the United States. She offers that "American society began as a colonial economy which offered raw resources and land to European and American capitalists" (p.147). Many racial and ethnic groups were brought to the United States mainly to provide cheap and forced labor (Cheng and Bonacich 1984). In the post-colonial economy, the labor system was comprised of a dual wage system where wages for racial ethnics were always lower than those for whites in comparable jobs (Barrera 1979), and better paying, skilled, clean, and secure jobs were reserved for white workers (Glenn 1994; Barrera 1979).

Glenn (1994) recounts the labor experiences of black, Chinese, and Mexican women in America. One reoccurring theme in all of the experiences of these minority women throughout their labor history was that they worked harder and longer than did white women. For example, Chinese women worked in family-owned laundries, restaurants, and stores that were adjacent to their homes, and consequently family and work life were integrated (Glenn 1994). "First up and last to bed, women had less leisure than the rest of the family" (Glenn, 1994, p.150). Displaced from a feudal economy by an expanding capitalist economy, Mexican women were part of the piece rate system in industrialized America, where entire families worked and moved with the crops. In the piece rate system, Mexican women raised children, cooked, and cleaned while still working long hours in the field (Glenn 1994). Black women, under slavery, worked in the plantation fields and did the housework and child care for white women. As Pleck (1979) states, "black women experienced the double shift long before the white woman" (p.151). Glenn's (1994) analysis shows that minority women still are subject to the double shift, and are working twice as hard as anyone else in the current labor climate.

Drawing upon the history of income variations among groups of people, it is essential to remember that race, class and gender are socially constructed and their meanings and interpretations change over time (Glenn 2002). Consequently, a person's subjective perception of race and gender can change given the historical context. In her later works, Glenn (2002) offers an integrated framework that focuses attention on the process by which racialization and engendering occur. The integrated framework conceptualizes the idea that race, gender and class are not separate...
categories, but instead are intertwined and relational to one another. It is important to examine the history of income inequalities by analyzing how the subjective interpretations of race, gender and class together shape women of colors' objective experiences and circumstances.

Expanding on Glenn's discussion of internal colonialism, Mirande (1985) explains the economic and political subordination of minorities, specifically Chicanos. The internal colonial model explains the conditions of internally colonized people: "American society is made up of diverse racial ethnic groups who are not integrated into a "melting pot" but instead are subordinated by others who benefit from their subordinate status" (Mirande, 1985, p.188). Mirande (1985) explains that internally colonized groups make up a dependent secondary colonial labor force that receives lower wages than do workers in the primary labor force. The model also suggests that the dominant group allows members of internally colonized groups whose appearance is similar to the dominant group, and who are willing to adopt the values and culture of the dominant group, to obtain a degree of upward mobility (Mirande, 1984). Given the social-historical background of racial, gender, and class inequalities, theoretical discussion of income disproportions follows.

**Theoretical Discussion**

Previous studies dealing with income inequalities fall into two categories: (1) studies guided by individualistic explanations (human capital theory) for income inequalities; and (2) studies guided by structural explanations (structural models).

**Human Capital Theory**

Human capital theory emphasizes individual factors, such as education level, vocational education, and on-the-job training experience that affect workers' productivity before they enter the labor market (Avalos 1996). The human capital model derives from a functionalist view where it is believed that the best jobs are reserved for the best fit worker (Davis & Moore, 1945). Studies that apply this model explain earning disparities between majority and minority workers as the result of the difference in the human capital skill among them. Loury (1998) reviewed the 1998 Economic Report of the President, and illuminates disturbing results: "Black workers are twice as likely to suffer from unemployment as whites, and the median black family income is just 3/5 of the median white family income" (p 11). The convergence toward pay equality between blacks and whites came to a stop in 1975, during the post-war era (Loury 1998). Loury argues that equally well educated black and white men who have attended school for
the same amount of years are not equally productive. "On average, blacks perform more poorly on reading and math tests than do whites with the same amount of education" (Loury, 1998, p.11).

In line with Loury's findings, Aubry (1999) also explains income disparities in terms of the human capital theory. Aubry (1999) attempts to identify the causes of California's increasing income gap between the rich and the poor. He argues that this gap is relatively unresponsive to economic upturns or downturns, and that the only way the situation will improve is through economic growth. Aubry (1999) also believes that there are two reasons for the widening income gap: rising return to skill and immigration. In his "rising return to skill" explanation, Aubry proposes that people need to increase their individual skills, such as education and work experience, to overcome the income gap. Regarding immigration, he claims that it has contributed to income inequality because the proportion of immigrants in the work force has increased the most at the bottom tier of the income distribution. Aubry's study shows that immigration accounts for 44 percent of the increasing income gap in California, while it found only slight affects for the variables of race and industrial structure. Although the human capital model examines individualistic explanations for income disparities, structural models consider other factors.

**Structural Models**

From a structuralist perspective, income inequality does not derive entirely from differences in individual skills, but is more likely to be caused by structural inequalities, such as labor market discrimination and economic restructuring. Avalos (1996) studied income disparities utilizing survey data from the 1979-1990 National Longitudinal Survey of Youth (NLSY), which asked the question, "Did structural changes in the economy during the 1980s produce redistribution across occupations and economic sectors that altered previous income inequality between majority and minority groups?" Specifically, Avalos' study explains the causes of income inequality and occupational distribution between young Latino and Anglo workers during the 1980s. Using the class/structural model, Avalos focuses on ways in which corporate restructuring in the United States has affected the labor market. Instead of comparing individual characteristics of workers, he focuses on macro changes in the United States economy. In his study, Avalos (1996) claims that the high cost of labor in the United States, and the impact of corporate restructuring had differing impacts on women of color, creating disadvantages that made them worse off economically than their counterparts.

Avalos (1996) used variables similar to those used in this study, and
found statistically significant earning inequalities existed between Anglo and Latina females, while controlling for age, education, and hours worked per week. Avalos concluded that the rise in income inequality is structural in nature and that a person's individual characteristics have little correlation with income earned. While structuralist theory emphasizes class, the Marxist feminist model includes gender as well as class.

**Marxist Feminist Model**

The Marxist feminist model views women’s subordination as a product of patriarchy and capitalism (Glenn 1994, 2002). This subordination of women was intensified by the rise of the capitalist system where men dominated the public sector and women dominated the private sector, and thus became dependent on male wages to obtain market commodities. Patriarchy was established and maintained through the sexual division of labor (Glenn 1994). The Marxist feminist model addresses class and gender, yet ignores a third component of oppression for minority women: race.

Segura (1989) attempted to combine race, class, and gender into an intersecting framework. She did this by compiling a study that examined the affects of the labor market structure and social relations on the occupational opportunities of a selected sample of Chicana and Mexican immigrant women at occupationally segregated jobs. Segura took a sample of 20 Chicanas and 20 Mexican immigrant women from the 1978-1979 and 1980-1981 cohorts of an educational and employment training program located in the San Francisco Bay area. The selected participants were interviewed using an open ended questionnaire. Segura (1989) states that individual characteristics, such as fluency in English, cannot explain why some of the women were occupationally mobile and others were not. She argues that more valid explanations would be the labor market structure, and differences in the work experiences of women in white-female-dominated jobs, compared with those in minority-female-dominated jobs. Segura (1989) also found income inequalities among women who worked full-time in minority-female-dominated jobs. These woman earned, on the average, about $250 less per month than did women in white-female-dominated jobs. This finding showed that jobs were being *racialized*, meaning that the more minority workers were employed in a particular job, the less the job paid regardless of immigrant status. Additionally, women employed full-time in the female-dominated segment of the labor market earned $800-1000 less per month than did women employed in male-dominated jobs, such as construction jobs. This finding indicted that jobs were also being *gendered*, meaning that the more females were employed in a
particular job, the less that job paid its employees. The racialization and engendering of jobs are indicators that race and gender are significant determinants of how much income one will earn, and that race and gender are the sources of income disparities in the United States.

**Methodology**

This research used existing data from the 2002 General Social Survey (GSS) whose population consisted of all 18-year olds living in the United States. The General Social Survey conducted data collection using face-to-face interviews. In order to make the sample representative of the general population, GSS interviewers included equal numbers of:

- males and females,
- employed to unemployed, and
- age ratios.

The sample was collected by cluster sampling, which was done in three stages. The first stage of sampling consisted of primary sampling units (PSUs) of one or more counties that were randomly selected. The second stage consisted of a random selection of one or more residential blocks within the PSUs. The third stage of sampling was a sub-sample of the second stage, where homes were selected within the identified residential blocks. The cluster sampling method used in this study is advantageous because it collected data from a large population spread across a wide geographic area. An advantage of using this data is that the response rate was 77.8 percent, indicating a high percentage of respondents who participated in the survey. The large sampling size of the survey was representative of the national population, which reduced sampling error.

**Data Analysis**

In this study, income is the dependent variable and race and gender are the independent variables. This study controlled for education, age, and hours worked per week, and used a linear regression, which is a statistical method for studying the relationship between a single dependent variable and multiple independent variables. The linear regression also helps determine whether the independent variables actually cause the dependent variable, and at what magnitude. The linear regression used income as the dependent variable and all other variables as the independent variables.

**Measurement**

The dependent variable of income is measured by asking the question: "In which of these groups did your total income from all sources fall last year, after taxes? Responses ranged from:
The independent variable of race was measured by asking the question, "Would you best describe yourself as…?" Responses were: "white" (=1); "black" (=2); "other" (=3). The category of "other" included Latino, Asian, Pacific Islander, Native American, and other. The "white" respondents were omitted from the race variable and the "black" and "other" respondents were combined to form a recoded variable: "minorities" whose values are: "minority" (=1); "white" (=0).

The sex variable is measured by asking the question: "What is your sex?" Responses were: "male" (=1); "female" (=2). The sex variable was recoded into the variable "female" where all male respondents were omitted from this variable. Values for "female" are: "female" (=1); "male" (=0).

The first control variable is "degree earned", which is measured by asking the question: "What is the highest degree you've completed?" Responses were: "Less than high school" (=0); "High school" (=1); "Junior college" (=2); "Bachelor" (=3); "Graduate" (=4).
The second control variable is "age", and is measured by asking the question: "Age of respondent?" The response was for the respondent to type in their age.

The third control variable is "hours worked per week", and it is measured by asking the question: "Number of hours worked last week? Respondents typed the specific number of hours they worked.

RESULT

This study was conducted to determine the impact of race and gender on income earnings. It was hypothesized that race and gender would have significantly negative impacts on an individual's yearly income earnings.

On the average, respondents in this study were 46 years of age, and had between a high school diploma and a junior college degree. The average income level for the subjects in this study was between $30,000 and $34,999 per year. The average number of hours that the respondents worked per week was 42 hours. Over half of the respondents in this study were females (56.0%). Less than a quarter of the respondents in this study identified themselves as a minority race (20.6%).

Results of the regression output shows that the model significantly predicted the respondents income level, \( F=66.742, p<.000 \). The adjusted R-square value was .158, indicating that 15.8 percent of the variability of income was explained by sex, race, number of hours worked per week, education level, and age of the respondents.

Compared to the other variables, the respondents education level, (Beta=.249, p<.000), had the most impact on income earnings. The results suggested that education level was the highest predictor of income earned per year. The results also showed a positive slope relationship between education level and income earned. The higher the respondent's education level was, the more income he/she earned per year.

The age of the respondent was also a significant predictor of income level with (Beta=.136, p>.000). The results revealed a positive slope relationship that suggests a correspondence between older age and higher income level.

The number of hours that the respondents worked per week was also significant (Beta=.136, p<.000). The number of hours worked per week and their income level showed a positive slope relationship. The more hours that the respondents worked the higher their income level was.

The respondents sex was also a significant predictor of income earned with (Beta= -.092, p>.000). The results showed that the relationship between being female and amount of income earned per year had a negative slope relationship. Female respondents earned less per year than
male respondents did, and being female had the most negative impact on amount of income earned versus all of the other variables used in this study.

The race of the respondents was also significant with (Beta=.079, p>.000). The results of the regression showed that the relationship between being of a minority race and income earned per year had a negative slope relationship. These findings reveal that minority respondents earned less income compared to white respondents.

Table 1: Descriptive Statistics

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<tr>
<th>Variable</th>
<th>LT High School</th>
<th>High School</th>
<th>Jr College</th>
<th>Bachelors</th>
<th>Graduate</th>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>15.1%</td>
<td>53.7%</td>
<td>7.3%</td>
<td>15.8%</td>
<td>8.1%</td>
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<tr>
<td>Sex</td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>56%</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Race</td>
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<td>Minorities</td>
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</tr>
<tr>
<td>Whites</td>
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<tr>
<td>Age</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>mean</td>
<td>46</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hrs p/wk</td>
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<td></td>
<td></td>
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<tr>
<td>mean</td>
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<tr>
<td>Income</td>
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</tr>
<tr>
<td>mean</td>
<td>30,000$-34,999$</td>
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</tr>
</tbody>
</table>

Table 2: Regression Coefficients and Standard Errors

<table>
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<th>Independent Variable</th>
<th>Dependent Variable: Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>1.034*** (0.092)</td>
</tr>
<tr>
<td>Female</td>
<td>-0.891*** (0.220)</td>
</tr>
<tr>
<td>Minority</td>
<td>-0.950*** (0.256)</td>
</tr>
<tr>
<td>Age</td>
<td>0.078*** (0.009)</td>
</tr>
<tr>
<td>Hrs p/wk</td>
<td>0.049*** (0.008)</td>
</tr>
<tr>
<td>Intercept</td>
<td>10.844*** (0.548)</td>
</tr>
<tr>
<td>R-Square</td>
<td>0.158</td>
</tr>
<tr>
<td>F</td>
<td>66.742***</td>
</tr>
<tr>
<td>Number of Cases</td>
<td>27,570</td>
</tr>
</tbody>
</table>

*p<0.05  **p<0.01  ***p<0.001

Note: Numbers in parentheses are standard errors
LIMITATIONS

There are some limitations to using the General Social Survey in this study. Because the survey was conducted within the English speaking portions of the population only, it left out data from the many individuals in the United States who do not speak English. Using the GSS may also be limiting because other variables exist that would explain the variability of income. Predictors of income are not limited to race, gender, level of education, age and hours worked per week.

CONCLUSION

This study hypothesized that women of color would have significant disadvantages by the intersecting effects of race, gender and class. It also analyzed the impact that race and gender have on annual personal income. The results of this study showed that being female, and being of a minority race had significantly negative impacts on personal annual income. The results determined that males and all respondents who identified themselves as "white" were more likely to earn higher annual incomes. Although being minority and female were significant predictors of having a lower annual income, the results could not conclude that white women earned more than minority females.

The human capital theory that was tested in this study did prove to have some grounding to its theoretical assumption. The results proved that the higher an individual's education level was, that the higher their income level would be.
REFERENCES


Study of the Kinetics of the Acid-Catalyzed Hydrolysis of Levoglucosan

Edgar Vidrio

ABSTRACT

The acid-catalyzed hydrolysis reaction of levoglucosan was observed in order to determine the rate constant for this reaction as a function of $[H^+]$ and temperature. During the combustion phase of wood, levoglucosan is released in large quantities to the environment. Because levoglucosan is a source specific to wood, it is an effective candidate to trace biomass source emissions in the atmosphere. One impediment to its usage is the possible atmospheric chemical reaction that levoglucosan undergoes: hydrolysis with water droplets found in the atmosphere. The hydrolysis reaction was monitored for a period of 10 days by high-performance liquid chromatography (HPLC) connected to an aerosol charge detector (ACD) system. Using HPLC, the concentrations of glucose and levoglucosan can be determined and correlated to pinpoint the conditions at which levoglucosan undergoes the acid-catalyzed hydrolysis to produce glucose.

The rate constant for a hydrolysis reaction with a $[H^+]$ of 0.9 stored at 50°C was determined to be $(2.61 \pm 0.09) \times 10^{-6}$ s$^{-1}$. The overall activation energy for the hydrolysis reaction of levoglucosan was determined to be 97 kJ/mol. From this data, this researcher determined that the loss of levoglucosan is significant only at high $[H^+]$ and temperatures (e.g. $[H^+] = 4$ at 50°C). Otherwise, the rate of the hydrolysis of levoglucosan is negligible at normal atmospheric conditions.

Due to global climate change, decreased visibility and health effects, aerosol particles have become an environmental concern over the last 20 years (Nolte et al. 2001; Simoneit, 2002; Singh, 1995). One source of aerosol particles is the combustion of biomass. Biomass refers to any biosynthetic matter, such as vegetation, fauna, and any industry products produced with raw biomass materials (Simoneit, 2002). Although biomass burning has been performed for a long time, only recently have biomass burning rates increased dramatically. The increase in aerosol particles found in smoke has overwhelmed the natural aerosols in many areas, which has led to higher ambient aerosol levels. Due to these concerns, there is a need to distinguish between atmospheric particulate matter from other sources and smoke particles. In order to track biomass smoke particles, the following molecular tracers have been proposed: Polycyclic Aromatic Hydrocarbons (PAH), Retene, $^{14}$C, phenolic compounds from thermal breakdown of lignin, and degradation products from cellulose and hemicellulose (e.g. levoglucosan, mannosan, galactosan).
Levoglucosan has been used as a molecular tracer for biomass burning for the last seven to eight years. Using levoglucosan has an advantage over other tracers due to its source specific nature (source specific to wood and wood products) and higher concentrations which makes it a desirable molecular marker for biomass burning. Levoglucosan has been instrumental in tracing forest fires that occurred over 7000 years ago (Elias, Simoneit, Cordeiro, & Turq, 2001). Its use as a marker has also been applied to tracing biomass burning over the Atlantic ocean (Simoneit and Elias, 2000).

This effective molecular tracer does have a drawback, once in the atmosphere it has the potential to react with water droplets to produce glucose (Fraser and Larkshman, 2000). When this reaction occurs, levoglucosan is selectively removed from the atmosphere, which limits its use as a molecular tracer (depending on the reaction rate). Therefore, it is imperative to identify the specific conditions for this reaction in order to determine whether levoglucosan can continue to be used as an effective molecular tracer.

Rationale/Purpose

Due to the lack of knowledge of the acid-catalyzed hydrolysis reaction of levoglucosan (Figure 1), it is imperative that the conditions for this reaction are identified. One important reason to examine the hydrolysis reaction of levoglucosan is to effectively determine whether levoglucosan can continue to be used as a molecular tracer for biomass burning. Another reason to examine the hydrolysis reaction of levoglucosan is to improve the methodology for converting cellulose into ethanol for food use, or for an alternative form of energy. This conversion is achieved when the glucose obtained though the hydrolysis reaction is fermented to ethanol (Figure 2).

**Figure 1.** Acid-catalyzed hydrolysis of levoglucosan yielding D-glucose.

**Figure 2.** Fermentation of Glucose to produce Ethanol and Carbon Dioxide.
LITERATURE REVIEW

Fine particulate matter released during biomass burning decreases visibility, absorbs incident radiation, and changes the global climate (Simoneit, 2002). Chronic exposure to aerosols at high concentrations may be detrimental to the lungs (Singh, 1995). Therefore, it is important to find molecular tracers that can trace biomass combustion in order to provide a chemical fingerprint that is source specific and useful for identifying combustion from vegetation species in samples of aerosols particulate matter (Simoneit, 2002).

In order for a molecular tracer to be considered useful in tracing biomass burning it must meet the following requirements:

- The compound must be emitted in large quantities
- The compound must be source specific, and
- It must not undergo any atmospheric chemical reactions that will selectively remove the tracer above recognition of the primary particulate matter (Fraser and Larkshman, 2000).

In a 1998 study, Simoneit et. al introduced levoglucosan, a monosaccharide anhydride that is produced during the pyrolysis (combustion) of cellulose, was introduced as a possible tracer for cellulose in biomass burning and atmospheric particles (Simoneit et al., 1998). This study determined that levoglucosan is emitted at such high concentrations that the marker could be detected in aerosol particulate matter at significant distances from the combustion source, thus enabling the potential tracking of such emissions on a global basis. Later research by Fraser and Lakshmanan (2000), confirmed the usage of levoglucosan as a molecular tracer for long range transport of biomass combustion aerosols. Samples of ambient particulate matter (PM10) that were released from extensive fires in Mexico and Central America were collected in Texas. These samples were analyzed for the detection of levoglucosan to track biomass-combustion generated aerosols. The study tested the stability of levoglucosan in the atmosphere by submitting it to possible atmospheric chemical reactions. One of these reactions was the acid-catalyzed hydrolysis of levoglucosan with water droplets found in the atmosphere to produce glucose. Although this is a known reaction, the conditions for it are not. The researchers performed the hydrolysis reactions at a pH level of two and at a temperature of 25 degrees Celsius. The samples were monitored for a period of 10 days. The research found that levoglucosan did not undergo observable acid-catalyzed hydrolysis under the stated conditions for the transport period.

In a similar study, the mechanism and kinetics of the acid-catalyzed
alcoholysis of levoglucosan was studied (Straathof et al., 1988). The alcoholysis was conducted with 1-butanol, and the reaction was performed at a pH level of two and at a temperature of 80 degrees Celsius. In this study, the half life of levoglucosan was estimated to be about six hours, and the rate constant for this reaction was determined to be \((27.5 \pm 1.0) \times 10^{-6} \text{s}^{-1}\). The sole products for such a reaction were determined to be \(\alpha\) and \(\beta\)-D-glucopyranosides. In another influential study, Cordeiro et al. (2001) determined that levoglucosan was able to trace forest fires that occurred over 7000 years ago. In this study, sediment samples were analyzed through gas chromatography-mass spectrometry (GC-MS) for the presence of levoglucosan. Levoglucosan was detected and quantified in total extracts of lake sediment. The discoveries indicate that levoglucosan can be found inside of lake sediments, and that by withdrawing levoglucosan from the sediments, it is possible to trace old biomass burnings.

Levoglucosan is not the only molecular tracer proposed to trace biomass burning. Polycyclic aromatic hydrocarbons (PAH), retene, \(^{14}\)C, and phenolic compounds from thermal breakdown of lignin, are among the many tracers proposed. Levoglucosan in addition to other monosaccharide anhydrides (MAs), mannosan and galactosan, has a clear advantage over the other proposed tracers, in that MAs are released during the pyrolysis of cellulose, they are emitted in large amounts, and are sufficiently stable, which makes it an ideal molecular marker (Zdrahal et al. 2002). Due to its source specific nature (it cannot be generated by non-combustive sources) levoglucosan has become one of the most common tracers for biomass burning (Simoneit and Elias, 2000).

The hydrolysis reaction of levoglucosan has proven to be important in the production of alternative sources of energy. In Yu and Zhang (2003), fermentation of glucose, which is the product of the hydrolysis reaction of levoglucosan, to form ethanol was completely studied. In this research, a 17.35% glucose yield was obtained by the hydrolysis reaction of levoglucosan with 0.2 mol/l H2SO4 at 121° C for 20 minutes. The maximum ethanol yield was obtained by fermenting glucose with \(S. \ cervisiae\) 2.399 (Fig. 2). This method provides a new, more efficient method for the production of ethanol fuel, which can be used as an alternative source of power. This literature review clearly demonstrates the need to identify the specific conditions under which the hydrolysis reaction of levoglucosan occurs.

**Problem Statement**

This research will determine the rate constant for the hydrolysis reaction of levoglucosan as a function of \([\text{H}^+]\) and temperature using an
HPLC detector attached to an ACD system. This research also intends to determine better suitable conditions for the production of glucose from the hydrolysis reaction of levoglucosan.

**Chemicals Used**

Standard solutions between the concentrations of 2-10 ppm of levoglucosan and glucose with arabinose added as an internal standard were prepared from stock solutions. Arabinose was used at a concentration of five ppm. Other non-carbohydrate chemicals used were hydrochloric acid and de-ionized water.

**Instrument and Other Equipment Used**

The HPLC system used in this research was composed of a Benson BC-100 Ca\(^{2+}\) 7.8 mm x 300 mm carbohydrate specialty column, a 57 µL injection valve loop, a column pump manufactured by Waters M6000A, a Merck T6300 column heater kept at 60°C, and an aerosol charge detector (ACD) system. An ACD system, described in Dixon and Peterson (2002), was attached to the HPLC (Figure 3). ChromPerfect (Justice Laboratory Software, Palo Alto, CA), a software program, was utilized for data collection and analysis. A HPLC column temperature controller (Therma Sphere TS-130 from Phenomenex) was used to keep the hydrolysis reaction at a specific temperature.

**METHODOLOGY**

1. Levoglucosan, glucose and arabinose standard solutions ranging from 2-10 ppm were prepared and run through the HPLC in order to establish the retention times for each substance.

2. Six different hydrolysis reactions were then performed. The reactions were as follows: a 50°C reaction having a \([H^+]\) level of 0.9, a 40°C reaction with a \([H^+]\) level of 0.9, a room temperature \#(~25°C) reaction with a \([H^+]\) level of 0.9, and three 50°C reactions with \([H^+]\) levels of 2, 3, and 4. The reactions were prepared from a semi-stock solution of
levoglucosan with a concentration of 1006 ppm. A specific amount of HCl was added to promote high H\(^+\) concentrations at low pH levels to catalyze the reaction. The amount of HCl needed for each reaction was determined depending on the final HCl concentration in the hydrolysis reaction desired. The [H\(^+\)] of each hydrolysis reaction was determined according to the initial concentration and the volume of HCl used to catalyze the hydrolysis reaction. The activity of the hydrogen ion was determined as explained in Kusik and Meissner (1978).

The reaction mixtures were then stored in eight ml vials kept in an oven. Aliquots of 50 µL were taken from the eight ml vials at different times during the 10 day period. These 50 µL aliquots, along with 50 µL of arabinose added as an internal standard, were diluted with de-ionized water to produce a volume of 10 mL. This dilution slows the reaction to negligible rates, basically freezing the reaction at the time that the dilution took place. This process works well because the 10 mL samples provide sufficient volumes for injection into the HPLC, while still getting the progress of the reaction at the time of the extraction instead of the time of the HPLC injection.

3. Data was collected using the ChromPerfect software installed in a standard personal computer.

4. Rate constant determination and further analysis was achieved by applying the least-square regression method to the obtained data using Microsoft Excel software.

RESULTS AND DISCUSSION

The acid-catalyzed hydrolysis reaction of levoglucosan was studied over a six-week period. During this timeframe, different reactions were conducted at different temperatures, ranging from 25°C to 50°C, and at different [H\(^+\)] levels, ranging from 0.9-4. Because different reactions will occur at different rates (the ones with the higher temperature and higher [H\(^+\)] levels will occur more rapidly), different rate constants were determined from each reaction and are listed in Table 1.

Each hydrolysis reaction was prepared and analyzed more than once in order to test the resulting rate constants. For the hydrolysis reactions that
gave different rate constants, the average rate constant was used instead. Table 2 illustrates the resulting rate constant for each hydrolysis reaction as well as the standard deviation for the hydrolysis reactions analyzed with identical conditions.

Table 2.

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Activity [H+] (H+)</th>
<th>Rate Constant K (s⁻¹)</th>
<th>Half-Life (hrs)</th>
<th>1/T (K⁻¹)</th>
<th>Ln k (s⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>0.5</td>
<td>0.38</td>
<td>(2.61 +/- 0.09) X 10⁻⁶</td>
<td>73.89</td>
<td>0.003096</td>
</tr>
<tr>
<td>40</td>
<td>0.5</td>
<td>0.38</td>
<td>(8.97 +/- 0.93) X 10⁻⁷</td>
<td>214.6</td>
<td>0.003195</td>
</tr>
<tr>
<td>25</td>
<td>0.5</td>
<td>0.38</td>
<td>(1.27 +/- 0.19) X 10⁻⁷</td>
<td>1511.6</td>
<td>0.003356</td>
</tr>
<tr>
<td>50</td>
<td>1</td>
<td>0.81</td>
<td>(7.77 +/- 0.19) X 10⁻⁶</td>
<td>24.79</td>
<td>0.003096</td>
</tr>
<tr>
<td>50</td>
<td>2</td>
<td>2.02</td>
<td>(1.34 +/- 0.11) X 10⁻⁵</td>
<td>14.34</td>
<td>0.003096</td>
</tr>
<tr>
<td>50</td>
<td>4</td>
<td>7.04</td>
<td>(3.05 +/- 0.23) X 10⁻⁵</td>
<td>6.311</td>
<td>0.003096</td>
</tr>
</tbody>
</table>

Figure 4 illustrates the initial extraction from a hydrolysis reaction with a [H⁺] of 0.9 and stored at a temperature of 50°C. As expected, levoglucosan appears at 16.69 minutes, and there is no glucose peak in sight. The top plot in figure 4 shows the same hydrolysis reaction after 190.68 hours; glucose and levoglucosan peaks are at 8.78 min and 16.72 min respectively. Notice the change in size in the two different peaks. Levoglucosan, being converted into glucose, dramatically shrinks in size from that of the bottom plot; similarly, glucose, being converted from levoglucosan, has dramatically increased its size. Therefore, after 190.68 hours, the hydrolysis reaction at a temperature of 50°C and a [H⁺] level of 0.9, has converted 87% of levoglucosan into glucose. The rate constant for this hydrolysis reaction of levoglucosan was determined to be (2.61 +/- 0.09) X 10⁻⁶ s⁻¹, which corresponds to a half-life of 73.89 hours.
The rate constant as well as the half-life of each reaction studied in this experiment was determined by applying the integrated rate law for a first-order reaction. First, it was determined that the hydrolysis reaction of levoglucosan is a first-order reaction because it follows the rule that the rate constant depends on the concentrations of a single reactant raised to the first power as seen in figure 5.

After the order of the reaction was determined, the integrated rate law was applied to determine the rate constant for each hydrolysis reaction as follows:

\[ \ln \left( \frac{[A]_t}{[A]_0} \right) = -kt \]

In this equation, \( \ln \) denotes a natural logarithm, \([A]_0\) stands for the concentration of \( A \) when time = 0, and \([A]_t\) denotes the concentration of \( A \) at any time after \( t = 0 \). The ratio of \( \frac{[A]_t}{[A]_0} \) is the fraction of \( A \) that remains at time \( t \). Since \( \ln \left( \frac{[A]_t}{[A]_0} \right) = \ln [A]_t - \ln [A]_0 \), the integrated rate law equation can be rewritten as:

\[ \ln [A]_t = -kt + \ln [A]_0 \]

The equation is now in the form of \( y = mx + b \), which states that \( \ln [A] \) is a linear function of time. The slope of the equation is \( k = - \) slope. Using least-squares regression gives the value of \( t = -0.0103 \) for the reaction.
Because:

\[
\ln \left( \frac{[A]_t}{[A]_0} \right) = -(-0.0103) \, k
\]

Solving for the rate constant \( k \) gives:

\[
k = -(-0.0103) \times 2.303 = 0.02376 \, \text{hr}^{-1}
\]

Converting hours into seconds gives:

\[
k = (0.02376 \, \text{hr}^{-1}) \times (1\,\text{hr}/3600\,\text{s}) = 6.6 \times 10^{-6} \, \text{s}^{-1}
\]

The half-life of the hydrolysis reaction, which is the time required for the reaction concentration to drop to one half of its original value, can be obtained by using the integrated rate law for first-order reactions:

\[
\ln \left( \frac{[A]_t}{[A]_0} \right) = -kt
\]

\[
t = t_{1/2} \quad \text{and the fraction } \frac{[A]_t}{[A]_0} \text{ must equal } \frac{1}{2}, \text{ therefore:}
\]

\[
\ln \frac{1}{2} = -kt_{1/2}
\]

\[
t_{1/2} = -\ln \frac{1}{2} / k
\]

\[
\text{so, } \quad t_{1/2} = \frac{0.693}{k}
\]

Because this researcher determined \( k \) to be \( 6.6 \times 10^{-6} \, \text{s}^{-1} \) in the above calculations, the half-life of this reaction would be:

\[
t_{1/2} = \frac{0.693}{6.6 \times 10^{-6}} = 105000 \, \text{s} \text{ or } 29.1667 \, \text{hrs}
\]

So, in 29.1667 hrs, the initial concentration of 13.3 mM will drop to that of 6.65 mM. In reality, this implies that after 29.1667 hrs one could expect 56.65 mM of glucose in our reaction sample.

The *activation energy*, the height of the energy barrier between reactants and products, of the hydrolysis reaction was determined by using the Arrhenius equation:

\[
\ln k = \ln A - \frac{E_a}{RT}
\]

This equation was rearranged into the form \( y = mx + b \). Therefore, graphing \( \ln k \) versus \( 1/T \) (Figure 7) gives a straight line with a slope of \( m = -E_a/R \):
\[ \ln k = \left( -\frac{E_a}{R} \right) \left( \frac{1}{T} \right) + \ln A \]

Therefore, solving for the activation energy, \( E_a \) gives:
\[ E_a = -R \times \text{Slope} \]
\[ E_a = -R \times (-11671K) \]
\[ E_a = 9.7 \times 10^4 \text{ J/Mol} \]

or \( E_a = 97 \text{ KJ/Mol} \)

The resulting data from the hydrolysis reactions illustrates a linearity in the formation of glucose as illustrated in figure 6. The linearity of the plot of log levoglucosan versus time can be appreciated by looking at the \( R^2 \) value, which in this case = 0.9818, very close the maximum value of 1.00.

![Figure 7. Graph of ln k versus inverse temperature to give the slope useful for finding the energy of activation of the hydrolysis reaction.](image)

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Activity (H+)</th>
<th>Rate Constant K (s⁻¹)</th>
<th>Half-Life (hrs)</th>
<th>( \frac{1}{T} ) (K⁻¹)</th>
<th>Ln k (s⁻¹·K⁻¹)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>0.5</td>
<td>(2.61 +/- 0.55) \times 10⁴</td>
<td>73.99</td>
<td>0.003966</td>
<td>-12.958</td>
</tr>
<tr>
<td>40</td>
<td>0.5</td>
<td>(8.97 +/- 0.93) \times 10⁴</td>
<td>214.6</td>
<td>0.003395</td>
<td>-13.9242</td>
</tr>
<tr>
<td>25</td>
<td>0.5</td>
<td>(1.27 +/- 0.89) \times 10⁷</td>
<td>1511.6</td>
<td>0.003356</td>
<td>-15.8763</td>
</tr>
<tr>
<td>50</td>
<td>1</td>
<td>(7.77 +/- 2.75) \times 10⁵</td>
<td>24.79</td>
<td>0.003096</td>
<td>-11.7659</td>
</tr>
<tr>
<td>50</td>
<td>2</td>
<td>(1.34 +/- 0.56) \times 10⁴</td>
<td>14.34</td>
<td>0.003306</td>
<td>-11.2185</td>
</tr>
<tr>
<td>50</td>
<td>4</td>
<td>(3.05 +/- 1.19) \times 10⁵</td>
<td>6.311</td>
<td>0.003696</td>
<td>-10.3977</td>
</tr>
</tbody>
</table>

Although the last data point in figure 6 seems a little bit high according the best-fit line plotted, this may indicate that the rate of reaction might slow down towards the end of the hydrolysis reaction. Another point that is worth explaining is the uncertainty of the slope in the determination of the
energy of activation plot in figure 7. The uncertainty at the 95% confidence interval for the activation energy was determined by using least-square regression to the data in table 3; graphing ln k versus 1/T gave an activation energy of 97 kJ/mol with an uncertainty of 38.4. This number may seem too high, because only three points were plotted into the graph, meaning that only one degree of freedom was used. This in response will give a relatively high number. However, if more degrees of freedom were used (e.g.) 5, the resulting uncertainty might have been smaller.

Figure 8 illustrates the effects of different [H\(^{+}\)] levels on the hydrolysis reaction. All four of the plots are from a hydrolysis reaction stored at 50°C; the only difference in all of them is the amount of HCl added as a catalyst. The first plot has a total hydrogen ion concentration of 0.9, second plot contains a hydrogen ion concentration of 2, third plot has a hydrogen ion concentration of 3 and lastly, the fourth plot has a hydrogen ion concentration of 4. As expected, at the same timeframe, the higher [H\(^{+}\)] has the greater glucose peak, which implies that the higher the [H\(^{+}\)] level, the faster that the hydrolysis reaction occurs.

![Figure 8](image)

*Figure 8. Effects of [H\(^{+}\)] on a hydrolysis reaction stored at same temperature (50°C). The [H\(^{+}\)] values for each plot are (clockwise, starting from top left hand corner): 0.5, 1, 2, and 4.*

For all of the reactions examined in this study, the initial levoglucosan concentration was 13.3 mM. If glucose is the only product produced from the hydrolysis reaction of levoglucosan, then naturally 13.3 mM should
always be the final concentration of glucose. This would have to be true at any point in the reaction. Figure 9 illustrates this point perfectly. After 23.8167 hrs in a reaction stored at 50°C with a [H⁺] of 0.9, the total glucose and levoglucosan concentration should be about 13.3 mM.

![Graph showing the total concentration of levoglucosan and glucose](image)

**Figure 9.** Total concentration of levoglucosan and glucose from a hydrolysis reaction with a [H⁺] = 0.5 and a temperature of 50°C after 48 hrs.

**LIMITATIONS**

A limitation to this study was the lack of time. The whole study was conducted during a six-week period, which was insufficient time to make a precise quantitative assessment of the rate constant for the acid-catalyzed hydrolysis of levoglucosan reaction. Another limitation to this research was the fluctuations in temperature control. The ovens used in this research to maintain the reaction at a specific temperature experienced a drop in temperature whenever an extraction was made and the oven door was opened. Therefore, during the extraction periods the temperature of the reaction dropped, making the reaction slow down for that small fraction of time. Although this researcher attempted to keep the extraction times to a minimal (5-10 s), a small drop in temperature was unavoidable.

**CONCLUSION**

The rate constant for the hydrolysis reaction of levoglucosan was determined in terms of [H⁺] and temperature (table 1). The data obtained from the HPLC analysis was initially analyzed using the software ChromPerfect, then plotted and fitted to the linear form y = mx + b, using the method of least squares. This researcher expects that levoglucosan is stable enough that it will not undergo acid-catalyzed hydrolysis under normal atmospheric conditions.
REFERENCES


Transnational Families and Identity Formation: A Case Study of the Jaripo Community in Stockton

Mario A. Ochoa

ABSTRACT

This qualitative study examines the identity formation of the "1.5" (those individuals who immigrated at the age of six or younger), second, and third generations within a Mexican transnational community in Stockton, California. How does transnationalism impact identity formation as compared to those with less of a transnational experience? Some goals of this research are to understand the variances, common patterns, and implications of identity formation for the Jaripo community, and general implications to society. Participants, ages 18-30, originate from Jaripo, Michoacán, whose community has been migrating to the United States for about a century (Barajas 2002). Data has been collected through purposive snowball sampling, using surveys, oral histories and participant observation.

Among the propositions this study examines and elaborates include upon are:

1. U.S. born Jaripos with families living in Mexico are more likely to be transnational,
2. Jaripos with families who have houses or land in Mexico are more likely to be transnational,
3. High level transnationals (those who visit Mexico at least one every three years) are more likely to feel at home in both Mexico and U.S.,
4. Social marginalization (poverty) contributes to transnationalism,
5. Transnational Jaripos are more likely to feel comfortable with diverse groups,
6. Transnational Jaripos feel more comfortable being bilingual than monolingual.

This study critically examines and analyzes how migration experiences shape the identity formation among the "1.5", second, and third generation members of the Jaripo [Mexican] community in Stockton, California. People from Jaripo, Michoacán, have a long history of migration; they have been migrating to various regions of the United States for about a century (Barajas, 2002; Fonseca & Moreno, 1984). From 1900 to 1965, mostly male labor migrants came to work in the U.S. The first wave of migrants—from 1910 to 1930s—worked in agriculture, mining, and on the railroads. The second wave—1942 to 1964—primarily worked agriculture in the West and Southwest, particularly California. The termination of the Bracero Program in 1964, and the passage of the Immigration Act of 1965, changed the migration experience of this group. The predominately male migration was transformed into family migration after 1965, when the first of the second generation babies were born and the "1.5" generation became integrated in U.S. society, primarily through school, work, and friends.
Many of these families have maintained links with their homeland community in Michoacán by returning yearly. With such a long history of bi-national migration, the Jaripo community has undergone many social/cultural and material changes. The results of these social changes have a profound effect on identity formation or rather, it adds to the complexity of the always changing identity (Omi & Winant 1994). This study addresses a significant and necessary area of scholarship: How the transnational experience has shaped the ethnic identity, orientation, and hopes of the Jaripo youth.

**Literature Review**

Although there has been abundant scholarship focusing on the labor migration experience of Mexicans (McWilliams, 1970; Galarza, 1964; Fonseca & Moreno, 1984; Massey et al. 1987; Rouse, 1992), there has been less attention given to the later generations' identity formation. Typically, the second generation is portrayed as falling within the "immigrant experience" of being firmly settled in U.S. society (Portes & Rumbaut, 1996). However, communities like the Jaripo have maintained very active and fluid movement across borders. The second and even third generations have been part of this experience. Some scholars have paid attention to the transnational phenomenon in general (Salazar Parreñas, 2001; Shiba, 2000), yet less attention has been given to the unique Mexican phenomenon of the later generation's transnationalism, in spite of its significantly larger immigrant population and longer history of crossing national borders. Michael Kearney (1996) and Roger Rouse (1989/1992) examined the transnational phenomenon among Mexicans, but focused primarily on the older generations.

**Conceptualizing Transnationalism**

*Transnationalism* can be defined as living in two nations while maintaining a sense of community in both nations. As synthesized by Barajas (2004), transnationalism contains three major characteristics: (1) having homes in two nation-states, in the sense of belonging and being connected to family, friends, community and institutions in both places, (2) having physical, mental, and emotional connections with both regions, and (3) keeping these material, cultural, and emotional links active. To better understand how the transnational experience shapes and forms individual/community identity, this study uses an interactionist framework (Mead, 1934; Blumer, 1969). This perspective gives an outlook of how the self, mind, and community are both socially and environmentally constructed. It also can provide an understanding of how community, family and self can
develop in between borders (Barajas, 2002). Rather than following dualist patterns of complete assimilation into a new culture or the full retention of an old one, there is an emergent development of a new racial/ethnic identity. For example, *Nepantla* has been described as the condition of being in between two cultures (Leon-Portilla, 1990), but not being fully immersed in either one. Leon-Portilla points out that this in-between position puts the native culture at risk because unequal relationships tend to favor the dominant group. It puts the dominant group at an advantage politically, culturally, and economically (see also Fanon 1967). An important byproduct of the two distinct groups is that they often come together to form a new cultural group (Lowe, 1996; Leon-Portilla, 1990).

**Problem Statement**

Living between two worlds gives the Jaripo youth a unique position in our interconnected global society. They can come and go between the two nations with an ease that is not known to most of either nations citizens. Since there is a lack of scholarship that deals with transnationalism and identity formation among the "1.5", second, and third generation, this study tries to fill part of the void in that scholarship.

This study examines the following hypotheses: (1) U.S. born Jaripos with family living in Mexico are more likely to be transnational, (2) Jaripos with families who have houses or land in Mexico are more likely to be transnational, (3) high level transnationals (those who visit Mexico at least one every three years) are more likely to feel at home in both Mexico and U.S., (4) social marginalization (poverty) contributes to transnationalism, (5) transnational Jaripos are more likely to feel comfortable with diverse groups, (6) transnational Jaripos feel more comfortable being bilingual than monolingual.

**Methodology**

The study used (1) structured surveys, (2) oral history interviews, and (3) participant observation. The participants were selected through a purposive snowball sampling to identify members of the Jaripo community who are between the ages of 18 and 30, and who are the children/grandchildren of immigrants from the Bracero Period (1942-1964). From these participants, five were interviewed to develop a more qualitative and ethnographic understanding of the "1.5," second, and third generation members of the Jaripo community in Stockton, California. Oral interviews were conducted in the preferred language of the participants, and the final report was translated into English.

Additionally, the researcher's background and personal connection with members of this community served as an asset in identifying and
accessing participants, as well as offering an insider's perspective. Being married to a member of the Jaripo community allowed this researcher to conduct the interviews in a non-intrusive and familial manner.

Analysis of the survey data was done with descriptive and bi-variate statistics. The first statistic provides basic information on background (e.g., age, frequency of migration, socio-economic status, etc.), and the bi-variate analysis examines whether a statistically significant association exists between two variables (e.g., homeownership in Mexico with frequency of visits there). A Chi-Square measure was used to test for positive association.

Forty-one copies of the structured survey were filled out by the targeted group and used to gather basic information on background, ethnic identity, and migration experience. Of the 41 surveys collected, 21 were from female participants and 20 from male participants. The survey participants were between the ages of 18 and 30 years old, with the average age of 24. Over half (58%) of those surveyed returned to Jaripo at least once every three years, with the rest returning every four to six years (19.5%) or once every seven or more years (19.5%). The second generation was the largest group represented, making up 78% of the participants, 14.6% were "1.5" generation, and 4.9% were third generation.

The oral history interviews were administered to some of the participants in order to gain a qualitative understanding of the group being studied. The recorded interview participants were chosen at random. A consent form was filled out before the interview, and the participants were informed that their participation was voluntary and that they could refuse to answer any question and terminate the interview whenever they wished. The interviews were mainly held in the English language with a few individuals switching to Spanish for a few small phrases or sentences.

The recorded interview was a structured interview that first asked biographical questions, then identity related questions, and last, a series of questions related to relationships and future plans. The biographical sections served two purposes, to obtain background information about the participant and to allow the participant to become comfortable with the interviewing process. The identity section asked questions that dealt with language preference, ethnicity, traditions, and home. The final section allowed the interviewee to provide insight into what plans they had for the future, and provided the interviewee with an opportunity to comment on or ask questions about the interview.

The participants interviewed were either second generation or "1.5" generation Jaripo migrants. They ranged in ages from 20 to 30 years old, and have migrated to and from Jaripo during different stages of their
youth. All the individuals interviewed live in Stockton, and most continue living in the southeast Stockton neighborhood they grew up in.

**Findings**

Analysis of the survey data was done with descriptive and bi-variate statistics. The first statistic provides basic information on background (e.g., age, frequency of migration, Socio-Economic Status...), and the bi-variate analysis examines whether a statistically significant association exists between two variables (e.g., homeownership in Mexico with frequency of visits there). A Chi-Square measure was used to test for positive association.

Because this study is exploratory and seeks to identify patterns of behavior rather than to generalize to a larger population of migrants, participant observation was an essential tool. It supplemented the survey and face-to-face interview with valid and qualitative insights that might have been missed with the other approaches. This approach allowed this researcher to verify the consistency of verbal claims and actions, and explore theoretical explanations (e.g., how social identities develop across unequal national/cultural borders as informed by social constructionist perspectives) for any contradictions.

**Hypothesis One:** U.S. born Jaripos with most of their family in Mexico are more likely to be transnationals. This hypothesis was not supported statistically (Chi-square = 4.32, p = .36), given that both U.S. born and Mexico-born Jaripos had most of their families in the U.S. (See Table 1.1). However, of the more frequent visitors (20 out of 40) that visit once every one to three years, half expressed having most of their family in the U.S., and the other half said they had equal family in both places. Interestingly, of the 40 participants only one expressed having most of their family in Mexico, and this person was a moderate transnational, visiting once every four to six years. Although this hypothesis was not supported, the exploratory survey reveals that having social ties in Mexico does appear to be related to frequency of movement across borders, regardless of whether most family resides permanently in the U.S. From an oral interview (Esther, personal communication, June 23, 2004), it was found that the town of Jaripo is scarcely populated during summer, spring and fall. It is not until the winter months that Jaripo families living abroad return to their hometown. The people living in Jaripo during the summer, spring, and fall make up a small percentage of the total Jaripo population. This transnational phenomenon can affect the answer to the question of where the majority of the participant’s family lives.

**Hypothesis Two:** Jaripos with families who own houses/land in Mexico are more likely to be transnationals. This hypothesis was supported,
revealing a statistically significant association between property ownership and the level of transnationalism (See Table 2.1). Among the U.S. born participants, a clear association exists with home ownership and frequency of visits (Chi-Square = 12.51, p = .002). Of the 33 second-generation respondents, 82% had families with houses in Mexico. Of those owning houses, 75% had the high levels of transnationalism; 15% are moderate levels; and 11% are low levels. Of those not owning houses, 33% were moderate transnationalist, and 67%, infrequent transnationalist. Among the seven participants born in Mexico ("1.5" generation), all of their families owned houses in Mexico, and revealed similar migration patterns as those born in the U.S: 57% are frequent transnationalist, 28% are moderate, and 14% are infrequent.

**Hypothesis Three:** High-level transnationals (e.g., visit Mexico at least once every three years) are more likely to feel at home in both Mexico and U.S. Although this hypothesis was not found statistically significant (Chi-Square = 2.48, p = .64), the data patterns confirm this study’s conception of transnationalism: those high in transnationalism feel equally at home in both countries (See Table 3.1). Nineteen respondents to this question were high level transnationalists and were born in the U.S. at 42% each, they were evenly split in feeling at home in both places and in the U.S. at 16% and fewer felt more at home in Mexico. Of the more infrequent visitors (n = 7), 57% felt more at home in the U.S, 14% in Mexico, and 28% in both places. Of the "1.5" generation group, seven responded to this question and revealed the same patterns as the second generation group.

A sense of feeling at home in both countries or in one country only proved to be a complicated question in the oral interviews. Magdalena (personal communication, June 16, 2004), considers Stockton to be her home because it is where she grew up and spent most of her life. She is a high level transnational, returning to Jaripo at least once every three years. When asked if she looked forward to coming home (Stockton), she quickly responded "No" and said that she did not want to come home because she was only in Jaripo for a month or two. She also stated that it was always sad to leave Jaripo for home. In an interview with Jose (personal communication, June 11, 2004), a similar feeling was shared. Jose is also a high level transnational and is a member of the "1.5" generation. Even though Jose has spent most of his life in the U.S., he considers his home to be Jaripo because that is where he was born and it is where his family is from. When Jose is in Jaripo, he finds that he misses his friends and family in Stockton, and when he is Stockton he dreams about being back home in Jaripo. These two examples show that regardless of what place is
considered home there still exists a strong attachment to both the U.S. and Jaripo.

**Hypothesis Four:** Those most marginalized in the U.S.-measured here as the lowest SES group—would be more likely to be transnational. This hypothesis was not supported (See Table 4.1, chi-square = 5.38, p = .50). Sixty-eight percent of the respondents reported having a family income of $35,000 or less; 12% reported earning between $35,001-65,000; and 10% reported an income of $65,001 and over. It was the middle group that appeared to be the most transnational. Moreover, this middle group relatively tends to be the upper income group among the Jaripo community, with a minority of them being los ricos or upper middle class. The finding suggests that those that are better off economically have the resources to travel back and forth between the two nations. The lower income group has more difficulty in trying to travel back and forth because of a lack of economic resources. Among this group legal residency is not a problem given that most are U.S. born. Since migration is an expensive and risky venture those who cannot afford the economic loss generally do not undergo the process.

**Hypothesis Five:** Transnational Jaripos are more likely to feel comfortable with diverse groups (crossing national borders encourages more cultural tolerance). This hypothesis was not statistically supported (Chi-Square = 8.85, p = .18), but the data revealed encouraging trends. Most of the respondents to this question expressed favoring a racially mixed neighborhood as opposed to living in a racially segregated one (See Table 5.1). The moderate transnationalists (85%) were followed by the high-level transnationalists (55%) and then by infrequent transnationalists (50%) in their preference for living in a racially mixed neighborhood. This trend is interesting in that the lowest level transnationals favored more homogenous neighborhoods. This seems to apply to society in general, and provides insight into improving race relations by promoting transnationalism. Furthermore, there was a statistically significant association between being a high-level transnational and having more racially different friends than for those who were less transnational (Chi-Square =10.40, p = .03). Forty-two percent of high level transnationals had friends of different races compared to 37% of the moderate transnational and 25% of the infrequent transnationalists (See Table 5.2). Interestingly, infrequent transnationals (63%) reported most of their friends as being Mexican.

The statistical association between being a high-level transnational and having more friends of different races is further supported by
interviews and observations of the two "1.5" generation participants, Jose and Armando. In both interviews, the participants expressed having a large number of African-American friends. When asked about the ethnicity of their friends, Jose responded that a majority of his friends who were not related to him were African-American, and Armando (personal communication, June 14, 2004) said he had an equal number of Mexican and African-American friends. Both of the claims were clearly visible from observing the groups of people that were present during both interviews. While interviewing Armando in the kitchen of his house, a handful of Mexicans and African-Americans were watching television or sleeping on his living room couch. Outside of Jose's house, a similar scene to that of Armando's house was repeated. Both Jose and Armando grew up with and have a large number of friends that are African-Americans. This experience is commonly shared among Jaripos living in the area of south Stockton and shows an interesting association.

**Hypothesis Six:** High-level transnational Jaripos feel more comfortable being bilingual than monolingual. This hypothesis was not supported (Chi-Square = 4.37, p = .36) because there was not a statistically significant association between high-level transnationalism and a preference for bilingualism as compared to monolingualism, either Spanish or English (See Table 6.1). All types of transnationals expressed an overwhelming preference for bilingualism as opposed to favoring one language over the other: high-level transnationals 71%, moderate 100%, and infrequent 88%. In making sense of why this could be the case, one idea comes from the fact that the different types of transnational youths are not isolated from each other. For example, there can be various types of transnationals within the same family, whereby one brother can be more of a frequent visitor to Mexico than another. In addition, the level of communication among the various types of migrants remains rather high. Younger siblings, who might be more proficient in English than their older ("1.5" or first generation), have no difficulties communicating in either language or code-switching from Spanish to English and vice versa. All of the participants interviewed reported that they spoke Spanish at home and both English and Spanish when with friends.

**Discussion**

In this study, **Hypothesis One**, U.S. born Jaripos with most of their family in Jaripo are more likely to be transnationals, was not supported by the data from the survey. However, the oral interviews identified that the town of Jaripo was scarcely populated during summer, spring and fall. It is not until the winter months that many migrant families return to Jaripo. From
Hypothesis Two, there was a significant relationship between owning property and transnationalism. This suggests that among this group a good indicator for returning to Jaripo depends on the ownership of property. Although property does seem to be a good indicator of who frequently returned, it is not perfect. Property alone cannot be used to explain why those who own no property return. Hypothesis Three did not have statistically significant results, though the data does show a pattern that the more transnational the individuals the more likely the individual would feel at home in both the U.S. and Mexico. From the oral interviews it was found that there existed a strong attachment to the place not considered home. Hypothesis Four states that poverty contributes to the transnational phenomenon. In this sample it was found that those in the middle group were more transnational. Within the Jaripo community, the middle group is economically well off and has more resources to travel to and from Jaripo. Hypothesis Five was not statistically supported but did reveal encouraging trends. Most respondents favored living in a racially mixed neighborhood rather than in racially isolated neighborhood. However, supporting this same hypothesis is the statistically significant association that high-level transnationals are more likely to have friends of different races than are those who are less transnational. Hypothesis Six, that transnational Jaripos feel more comfortable being bilingual was not supported by the data. It was found that most of the individuals, who were at different levels of transnationalism, preferred to speak both languages.

Limitations

It is important to note that some limitations exist in this research study. Most of the individuals surveyed and interviewed were second generation migrants and few were in the "1.5" and third generation categories. A problem was encountered with a question in the survey; "Where did the participants have most of their family, U.S. or Jaripo?" In Jaripo, most of the people are migrants and reside in both U.S. and Mexico. The oral interviews established that Jaripo was relatively empty until winter.

Future research should incorporate more "1.5" and third generation Jaripos. The "1.5" generation Jaripos could be included if the age group is raised to 40 years old so that the Jaripos who migrated at the end of the second wave could be incorporated. Third generation Jaripos migrants can be found but it requires the surveying and interviewing of minors.

Conclusion

Transnationalism, as synthesized by Barajas (2004), contains three major characteristics: (1) having homes in two nation-states, in the sense of belonging and being connected to family, friends, community and
institutions in both places, (2) having physical, mental, and emotional connections with both regions, and (3) keeping these material, cultural, and emotional links active. This study applied the aforementioned definition of transnationalism to the 1.5", second and third generation members of the Jaripo community between the ages of 18 and 30. The Barajas model of transnationalism was divided into six smaller hypotheses for testing on this small sample.

From the findings, the Barajas model of transnationalism was found to be a good definition of transnationalism when applied to a section of the Jaripo community. Though at times not statistically significant, the major premises of the definition were supported in qualitative data and in quantitative data. An exception was Hypothesis Four: Those most marginalized in the U.S. would be most likely to be transnational; the sample studied did not represent a large enough sample of marginalized Jaripos.

More research is needed in the area of transnationalism, specifically dealing with the later generations. This group will be a very important group in the future as they mature economically and politically. Transnationals are going to be an important asset to both the U.S. and Mexico as both nations realize the interconnectedness of their citizens.
REFERENCES


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Chi-Square = 4.326, P = .364
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<td>14.3%</td>
<td>14.3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>14.3%</td>
<td>0%</td>
<td>14.3%</td>
<td>14.3%</td>
<td></td>
</tr>
<tr>
<td>Both</td>
<td>Count</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Where is home?</td>
<td>66.7%</td>
<td>33.3%</td>
<td>0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within How Often Visit Mex?</td>
<td>50.0%</td>
<td>50.0%</td>
<td>0%</td>
<td>42.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>26.6%</td>
<td>14.3%</td>
<td>0%</td>
<td>42.9%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within Where is home?</td>
<td>57.1%</td>
<td>26.6%</td>
<td>14.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% within How Often Visit Mex?</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>57.1%</td>
<td>26.6%</td>
<td>14.3%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Chi-Square = 2.480, p = .648
### Table 5.1 Prefer Diverse Neighborhood by Level of Transnationalism

**How Often Visit Mex? \* Family Income Crosstabulation**

<table>
<thead>
<tr>
<th>How Often Visit Mex?</th>
<th>1-3</th>
<th>4-6</th>
<th>7-PLUS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>38.1%</td>
<td>42.9%</td>
<td>14.3%</td>
<td>4.8%</td>
</tr>
<tr>
<td>% within Family Income</td>
<td>72.7%</td>
<td>52.9%</td>
<td>75.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>22.2%</td>
<td>25.0%</td>
<td>8.3%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

| Count                | 2   | 3   | 1      | 8    |
| % within How Often Visit Mex? | 25.0% | 37.5% | 12.5% | 25.0% | 100.0% |
| % within Family Income | 18.2% | 17.6% | 25.0% | 50.0% | 22.2% |
| % of Total            | 5.6% | 8.3% | 2.8% | 5.6% | 22.2% |

| Count                | 1   | 5   | 0      | 7    |
| % within How Often Visit Mex? | 14.3% | 71.4% | 0.0% | 14.3% | 100.0% |
| % within Family Income | 9.1%  | 29.4% | 0.0% | 25.0% | 19.4% |
| % of Total            | 2.6% | 13.9% | 0.0% | 2.6% | 19.4% |

| Count                | 11  | 17  | 4      | 32   |
| % within How Often Visit Mex? | 30.6% | 47.2% | 11.1% | 11.1% | 100.0% |
| % within Family Income | 18.9% | 85.7% | 50.0% | 59.0% |
| % of Total            | 15.4% | 15.4% | 10.3% | 59.0% |

**Chi-Square= 5.388, p=.495**

### Table 4.1 Transnationalism by SES

**How Often Visit Mex? \* Family Income Crosstabulation**

<table>
<thead>
<tr>
<th>Family Income</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-29K</td>
<td>24</td>
</tr>
<tr>
<td>25,001-45K</td>
<td>7</td>
</tr>
<tr>
<td>45,001-65K</td>
<td>8</td>
</tr>
<tr>
<td>65,001-plus</td>
<td>39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How Often Visit Mex?</th>
<th>0-29K</th>
<th>25,001-45K</th>
<th>45,001-65K</th>
<th>65,001-plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>% within How Often Visit Mex?</td>
<td>38.1%</td>
<td>42.9%</td>
<td>14.3%</td>
<td>4.8%</td>
</tr>
<tr>
<td>% within Family Income</td>
<td>72.7%</td>
<td>52.9%</td>
<td>75.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>22.2%</td>
<td>25.0%</td>
<td>8.3%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

**Chi-Square= 8.847, p=.182**
### Table 5.2  
**Diverse Neighborhood Friends by Transnationalism**  
**Neighborhood friends mostly Mex? * How Often Visit Mex? CrossTable**

<table>
<thead>
<tr>
<th>Neighborhood friends mostly Mex?</th>
<th>Mostly Mexican Count</th>
<th>1-3</th>
<th>4-6</th>
<th>7-PLUS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% within</td>
<td>66.7%</td>
<td>9.5%</td>
<td>25.6%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>58.3%</td>
<td>25.0%</td>
<td>62.5%</td>
<td>52.5%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>35.0%</td>
<td>5.0%</td>
<td>12.5%</td>
<td>52.5%</td>
<td></td>
</tr>
<tr>
<td>Mixed</td>
<td>10</td>
<td>3</td>
<td>2</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>% within</td>
<td>66.7%</td>
<td>20.0%</td>
<td>13.3%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>41.7%</td>
<td>37.5%</td>
<td>25.0%</td>
<td>37.5%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>25.0%</td>
<td>7.5%</td>
<td>5.0%</td>
<td>37.5%</td>
<td></td>
</tr>
<tr>
<td>Mostly Other</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>% within</td>
<td>0.0%</td>
<td>75.0%</td>
<td>25.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>0.0%</td>
<td>37.5%</td>
<td>12.5%</td>
<td>10.0%</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>0.0%</td>
<td>7.5%</td>
<td>2.5%</td>
<td>10.0%</td>
<td></td>
</tr>
</tbody>
</table>

| Total                            | 24                   | 8   | 8   | 40     |       |
| % within                         | 60.0%                | 20.0%| 20.0%| 100.0% |       |
| % within How Often Visit Mex?    | 100.0%               | 100.0%| 100.0%| 100.0% |     |
| % of Total                       | 60.0%                | 20.0%| 20.0%| 100.0% |       |

Chi-Square= 10.405, p= .034

### Table 6.1  
**Language Preference by Level of Transnationalism**  
**language preference * How Often Visit Mex? CrossTable**

<table>
<thead>
<tr>
<th>Language preference</th>
<th>How Often Visit Mex?</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3</td>
<td>4-6</td>
</tr>
<tr>
<td>Spanish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>% within language preference</td>
<td>100.0%</td>
<td>.0%</td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>16.7%</td>
<td>.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>10.0%</td>
<td>.0%</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>% within language preference</td>
<td>75.0%</td>
<td>.0%</td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>12.5%</td>
<td>.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>7.5%</td>
<td>.0%</td>
</tr>
<tr>
<td>Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>% within language preference</td>
<td>53.1%</td>
<td>25.0%</td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>70.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>42.5%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>% within language preference</td>
<td>60.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>% within How Often Visit Mex?</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% of Total</td>
<td>60.0%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

Chi-Square= 4.375, p= .358
The Ethnic Self-Awareness of Hispanic Americans and European Americans

Rocio Mendoza

Abstract

This study examines how the ethnic composition of interpersonal situations is related to perceptions of ethnicity, emotions, and attitudes. Fifty-five college students from California State University, Sacramento (CSUS) participated in this study. Male and female students were asked to complete three vignette questionnaires, a multicultural ethnic identity measure, and a demographics form. Findings showed no significant differences in ethnic self-awareness between European American and Hispanic American students. The results are discussed in relation to the experiences of European American and Hispanic American students.

The migration of people from across the world to the United States has contributed to the ethnic diversity of this country. The growth in diversity has led scholars to comment on the importance of ethnic identity development. In the literature, a strong ethnic identity for ethnic minority group members is often correlated with negative views of the dominant culture or group in society. Research shows that minority group members often associate the dominant group with negative attitudes to maintain a positive self-esteem (Naidoo, Smith, Stone & Stratton, 2003).

The purpose of this study is to investigate how the ethnic composition of interpersonal situations and ethnic identity are related to perceptions of ethnicity. This study focuses on people's awareness of ethnicity, as experienced by European American and Hispanic American students.

Literature Review

Previous research has demonstrated that ethnic identity is an important component of an individual's self-concept, and has implications for physical and psychological well-being (Mossakowski, 2003). Ethnic identity is generally established by the level of a person's commitment to his or her ethnic group, level of ethnic pride, and involvement in certain ethnically related activities and practices (Phinney, 1992). Research has shown that an individual's ethnic identity serves as a buffer against events that might affect that person's self-esteem. Much of the ethnic identity research has focused on African Americans, much to the exclusion of Latinos and Asians.

One area of ethnic identity research has focused on the link between
the well-being of ethnic group members and the degree of ethnic self-awareness they may possess. For example, Caldwell, Cone, Seller, Schmeelk, and Zimmerman (2003) examined ethnic centrality and the degree to which African Americans believe that they are discriminated against by others because of their ethnic background. In this study, researchers conducted face-to-face interviews with 555 African American participants (\(m = 17\) years of age), and administered a questionnaire that asked about drug and alcohol abuse, ethnic identity, sexual behavior and discrimination. A short version of the Multidimensional Inventory of Black Identity was used to measure racial identity. The results showed that the more one identifies with one's ethnic group, the more likely one is able to maintain a positive attitude about one's self-concept. Although this is an important finding, the sample was limited by its age group and ethnic group, making it difficult to generalize to other groups.

Research has demonstrated that the degree to which one identifies with one's ethnic group is important in that it acts as a buffer to protect the self-esteem and mental health of an individual. Mossakowski (2003) looked at the psychological distress caused by perceived discrimination, and how ethnic identity can lower the negative effects of discrimination for Filipino Americans. Using 2,109 Filipino Americans from two different states: Honolulu, Hawaii, and San Francisco, California, this study used face-to-face interviews where participants were able to choose the language in which they felt more comfortable communicating. The interview questionnaire included items about when and how often they felt that they were treated differently, and why they believed this to be. Participants were asked to recall the number of times that they had felt sad or depressed during the past 30 days.

This study assessed ethnic self-identity using Phinney's Multiethnic Identity Measure (MEIM; 1992). Findings showed that higher levels of ethnic identity were associated with lower levels of depressive symptoms and better mental health. It was found that Filipino American immigrants with a strong ethnic identity suffer less symptoms of depression than do Filipinos born in the U.S. (Mossakowski, 2003). In this case, the author suggests that the strong effects of discrimination are minimized by having a strong ethnic identity. One limitation in this study is that other psychological and social factors, such as feelings and emotions, were not examined in relation to ethnic identity and mental health.

Other studies have shown that a strong ethnic identity helps individuals to be better adjusted psychologically. Poyrazi (2003) examined 118 international college students ranging in ages from 18 to 46 from four
The results demonstrated a positive correlation between ethnic identity and positive academic performance. A strong ethnic identity was also related to less stress, better adjustment, and a high grade point average (GPA).

In a study by Naidoo, Smith, Stone, and Stratton (2003), the relationship between ethnic identification with more than one ethnic group and the attitudes towards whites were investigated. Seventy colored individuals from South Africa participated in this study. Participants were from two universities, with 55% who were women, and 59% who reported coming from a middle-class socioeconomic background. Phinney’s Multiethnic Identity Measure (1992) was used to assess ethnic identity. An anti-white scale was also included to measure prejudice against whites in different contexts, such as political, social, and economics. The results showed that most of the participants had a moderate level of ethnic identity. Opposite to what was predicted, participants with a strong ethnic identity showed a significantly high level of tolerance for whites (Naidoo et al., 2003). The groups studied in this case were very unique to South Africa. Therefore, there is limited applicability to other groups, such as Latinos living in the U.S.

Ethnic identity plays a critical role in the well-being of different ethnic group members because cultural experiences help people identify as part of a special group. The use of a native language at home or repeated exposure to certain music can influence the degree to which an individual feels connected to his or her culture or group. It is mostly at home where one learns to identify with different cultural aspects that help individuals develop a self-concept.

In another study, Bernal, Cota, Garza, Knight, and Ocampo (1993) examined family influence on identity by examining 45 Mexican American children (29 girls and 16 boys, ages 6-10 years old). The mothers of these children answered the Bicultural Involvement Questionnaire, which involved: (a) filling out a family tree (b) rating the specific times in which they provided their children with specific information about the Mexican culture (c) completing a scale about the teaching of ethnic pride and discrimination (d) reporting a description of the Mexican objects that could be found in their homes. Their children were asked to fill out an ethnic identity questionnaire and an ethnic constancy scale.

Findings suggest that there is a relationship between the levels of ethnic identity of the children and the levels of ethnic identity of the mothers. Specifically, the mothers who are more in touch with their ethnic identity encourage strong ethnic identity in their children. One limitation in
this study is that the ethnic identity of the father was not examined.

The belief that ethnic identity is related to a person's well-being and self-esteem is based on the assumption that ethnicity is meaningful and valuable for ethnic minority group members. This only takes place when ethnic identity has some degree of centrality for the individual (Phinney, 1996). Phinney (1996) states that ethnic identity is most salient for those individuals who find themselves in situations where their group membership to any specific group is most evident. The degree of importance of ethnic identity and the feelings and emotions that come with it are greatly associated with an individual's experiences with society, and the situations that he or she encounters.

Phinney has suggested that the relationship between ethnic identity and self-esteem occurs only when ethnic identity is salient. This relationship is more visible when a white adolescent is in a minority or ethnically diverse context. Due to the rarity of this event, previous findings suggest that ethnic identity is more salient for those people that belong to an ethnic minority group than for those who are part of the ethnic majority.

In Umaña Taylor's (2003) study, Ethnic Identity and Self-esteem: Examining the Role of Social Context, she chose three high schools because of their particular ethnic composition, predominantly white, Hispanic or mixed. One thousand sixty-two Mexican-origin adolescents were presented with the Multi-group Ethnic Identity Measure (Phinney, 1992) and with Rosenberg's (1979) Self-Esteem Scale. Unlike Phinney's findings, Taylor found that, for this group of Mexican American students, the relationship between ethnic identity and self-esteem was not related to a specific context. That is, unlike the white adolescents from Phinney's study in which ethnic identity emerges only when they are a numerical minority, ethnic identity was found to be consistently present for Mexican Americans in this study. Over all the findings of studies by Taylor (2003) and Phinney (1992) show that there is a difference when it comes to the levels of ethnic self-awareness and the ethnic composition of the situation that each of the participants encounter. Certainly both the European American and the Hispanic Americans respond in a unique way.

**HYPOTHESES**

This study hopes to further examine the perception of ethnicity and how it is related to the ethnic composition of interpersonal situations. With 55 college students from California State University, Sacramento (CSUS) the present study focuses specifically in the ethnic self-awareness of Hispanic Americans and European Americans.

Given the empirical work that has been done in the past, this
researcher expected that European American participants would have a higher degree of ethnic self awareness, (they will be more aware of their ethnic background) when placed in a situation where they are the minority (i.e., all different ethnic group members), and less awareness of their ethnicity when placed in an ethnically mixed situation, with virtually no awareness of ethnicity in the majority situation (i.e., all White). This study also expects to find that, unlike their European American counterparts, Hispanic American participants would show high levels of ethnic self awareness when placed in both the minority (i.e., all different ethnic group members) and the majority (i.e., all Hispanic Americans) situations, and less so in the ethnically mixed situations.

**Methodology**

Fifty-five college students (30 males and 25 females) between the ages of 18 to 45 at CSUS were recruited for this study. The sample included 31 Hispanic Americans and 24 European Americans with an income of $50,000 or more per year. As indicated by the self-report, the majority was born in the United States (U.S.), as were their parents and grandparents. The 12 participants who reported being born outside of the U.S. had an average of 9.83 years of residence in the U.S.

**Measures**

This study uses the Multigroup Ethnic Identity Measure (MEIM Phinney, 1992) to assess ethnic identity. The MEIM consists of 20 items that assess different aspects of ethnic identity, including: ethnic identity achievement; positive ethnic attitudes and sense of belonging; and ethnic behavior and practices. Items were scored using a four-point rating scale, with a high sum representing a high degree of ethnic identity.

To assess ethnic self-awareness, the participants responded to five "Who Am I" questions included as part of the vignettes. The answers to the questions were later coded as either "ethnic related" or "non ethnic related." For example, if the participant answered the "Who Am I" question with the word "Hispanic," a point was assigned. If the participant answered the “Who am I” question with information such as their first names or gender characteristics, their responses were coded as "non ethnic" and no points were given. Finally, the number of ethnic related responses was divided by the total number of responses (in this case five) and a score was recorded.

**Procedure**

Participants were recruited through flyers posted on the CSUS campus and surveyed in an assigned room within the psychology
department at different times each day. Prior to the completion of the questionnaires, verbal and written instructions were given to each participant. They were then asked to sign the consent form which also assured all participants of their anonymity. All participants were given three folders, each containing a picture, a vignette, and a corresponding questionnaire. Each folder contained the following instructions:

Each folder contains a picture of a situation, followed by a description of the social interaction occurring in the scene. As you look at the picture and read its description, imagine yourself in the social interaction that is pictures and described. Then answer the questions that follow the picture and vignette. After you have responded to the picture and the description in the first folder, go on to the second, and then the third. However complete the questions for each scene before moving on the next.

The pictures included with the vignettes were of a group of people in three different settings: (1) lounge setting (students in a lounge area) (2) classroom setting (students doing class work) and (3) cafeteria setting (students having lunch). These were randomized to control for order effects.

The ethnic composition of the groups shown in the three pictures was also varied. They consisted of: a) all Hispanic American group, b) all European American group, and c) mixed group (both Mexican Americans and European Americans). For Hispanic Americans, being presented with an all Hispanic American group constituted a majority situation, whereas an all European American group constituted a minority situation. Conversely, for European Americans, being presented with an all Hispanic American group was considered to be a minority situation; all European American group, majority situation. Situations with half Hispanic Americans and half European Americans were considered to be mixed situations for both ethnic groups. After completing the three vignettes, participants were then instructed to answer the MEIM followed by some demographic questions.

RESULTS

To test the hypotheses, this researcher compared responses to the "Who Am I?" after exposure to the vignettes. The between subjects variable was Ethnicity (Hispanic American and European American) and the repeated measures variable was Ethnic Composition (majority, mixed, minority). Ethnic Self-Awareness served as the dependent variable. No significant differences were found for Ethnic Self-awareness between Hispanic Americans and European Americans. Although these findings are not significant, they do show patterns consistent with the findings of Umaña Taylor (2003). In those findings, ethnic identity was more salient for minority group members than for non-minority group members.
DISCUSSION

The results of this study did not support the main hypothesis that European Americans would have higher ethnic self-awareness than would Hispanic Americans. However, the results do show a trend for European American participants such that they exhibited higher ethnic self-awareness when placed in situations where they were considered the ethnic minority relative to ethnically mixed and majority situations. In contrast, the ethnic self-awareness for Hispanic Americans remained constant across all three ethnic compositions. These findings suggest little difference in the ethnic self-awareness of Hispanic Americans and European Americans. These findings for Hispanic Americans are different from the experience of Asian Americans. A study by Kim-Ju and Liem (2003) showed that Asian Americans exhibited high levels of ethnic self-awareness in minority and majority situations. One issue for Hispanic Americans may be that skin color (i.e., race) diluted some of the differences in ethnic self-awareness between Hispanic Americans and European Americans. That is, Hispanic Americans may see themselves as White and thus not different in situations where they are with European Americans. In this same study Kim-ju and Liem (2003) also looked at how an achieved ethnic identity or an unexamined ethnic identity is affected by the ethnic composition of the group the individual finds him/her self in. The results showed that those individuals with an achieved ethnic identity display a higher level of ethnic awareness in response to the majority composition of the group. On the other hand no large differences were found when the participant was placed in the mixed group composition.

LIMITATIONS

There are several limitations to the present study. There is a restricted range in the ethnicity of the participants. To get a broader understanding of ethnic self-awareness, other ethnic groups need to be examined in greater detail. Furthermore, there are limitations in the age and educational level of the participants. Future research should include a broader sample in terms of ethnicity, age, and educational level. At the same time future empirical research should also look at how ethnicity might be affected by the degree of involvement in culture related activities, as well as acculturation models and their effects on ethnic identity.

CONCLUSION

This study looked for differences between Hispanic Americans and European Americans in their levels of ethnic self-awareness. The main focus of this study was to look at how the ethnic awareness of the individual is affected or related to ethnic identity and the ethnic
composition of interpersonal situations. The present findings suggested that Hispanic Americans show consistent levels of ethnic self-awareness across various situations opposite to their European American counterparts. Despite the lack of significance, the present study, seeks to add to the growing body of literature on ethnic identity, especially the links between ethnic identity and psychological correlates such as ethnic identity and its effects on self-esteem as well as its influence on other aspects of the human life.
REFERENCES
Student Activism from a Grounded Experience: A Standpoint Analysis

Olgalilia Ramírez

ABSTRACT

This paper examines how the personal experiences of marginalization and oppression motivate Chicana/o college students to engage in political activism. Through a self-administered survey and qualitative interviews of California State University, Sacramento (CSUS) students, this study examines whether personal experience causes a Chicana/o college student to become civically engaged or politically active. The research is grounded in standpoint theory: "An approach that suggests that inquiry and research grounded in the standpoints of ... marginalized groups is more objective and more complete than research based on the perspectives of the privileged" (Harding 2004). Moreover, the theory suggests that marginalized individuals are more likely to develop a counter-hegemonic perspective of political action. Though much has been said about this link, there has been little empirical work done on establishing the connection. Standpoint theory is used to support the perspective of the Chicana/o students that result from the data collected. Moreover, the study identifies politically active students through a series of questions to determine whether or not personal experiences were the cause of their activism.

During the height of the Chicana/o Movement in the late 1960s, examples of Chicana/o student activism emerged across the Southwest. Responding to manifest social oppression in their communities, students demonstrated their power through a series of protests, school walkouts, and marches. Signs declaring, "brown is beautiful," and "La Union Es La Fuerza," (Unity is our strength) were symbols of how students embraced their right of self-determination. Although these nationalistic expressions are often misclassified as nativist and exclusionary, racial minorities were, in fact, challenging an explicitly (de jure) white supremacist nation, and attempting to create a more substantive democratic and pluralistic society open to all people regardless of race, gender, and class origin (bell hooks 1994).

The Chicana/o Movement was motivated by self-determination and a desire to achieve political and economic empowerment. Roberto Rodriguez writes that the "Chicana/o movement was comprised of several components: boycotts to improve the lives of farm workers; demonstrations to end Jim Crow-style segregation and police repression;
demands for land-grant equity; protests to improve educational opportunities; and organizing for political representation and self-determination. In time, other areas of concern were added, such as: gender equality, access to higher education and immigrant rights" (Rodriguez 1996). These issues are examples of social inequalities that Chicana/os have endured within the context of American society. As Chicanas/os became aware of the disparities, such as high school drop out rates [or push out rates] and access to higher education, they began to fight for social change.

The current study identifies Chicana/o student activists at California State University, Sacramento and attempts to determine if experiences of marginalization have motivated them to become politically active. This study asks the following questions:

- Do personal experiences motivate CSUS Chicana/o students to become politically involved?
- Does consciousness heighten political activism among Chicana/o students?
- Why do some students who come from similar backgrounds conform rather than engage in political activism?

This study addresses these questions and attempts to identify what unique experiences motivate student and activists. Political activism, for the purpose of this study, is defined as a consciousness of systems of injustice coupled with action or resistance against oppression through critique and action.

LITERATURE REVIEW

Robert Rhoads and Julio Martinez (1998) asked similar questions in their University of California, Los Angeles (UCLA) study, of a student sit-in on campus. The event took place on March 11, 1993. Chicana/o students and faculty marched across campus to protest the rejection of Chicana/o studies as a department. Rhoads and Martinez interpret the rejection as a representation of how traditional educational structures have marginalized a diverse society by silencing those with non-European cultural roots. As a result, the student protestors sought to insert Chicana/o identity at the core of social life in the United States (Rhoads and Martinez 1998). The UCLA study focused on this one event, and the significance students placed around various actions in order to pressure administrators to approve Chicana/o studies for departmental status.

Through several interviews of students who participated in the protest, Rhoads and Martinez found that the history of Chicana/o studies at UCLA was one of marginality. The implementation of Chicana/o studies as a department would add a greater degree of stability and autonomy to Chicana/o studies than it had available in the past. In addition
the program would expand course offerings such as, studies of immigration, gender, identity, behavior and many others.

Tom Strunk, an active member of Students Against Sweatshops at Loyola University, argues that to motivate young people to care enough to take action, they need to feel a personal connection to the issues at hand (Schlumpf 2001). Strunk protested Chicago's Nike Town store to increase awareness of the working conditions at the Nike plant in Mexico. Although Strunk did not experience the harsh working conditions he opposes, he believes that any business (i.e. Nike Town) conducted with companies that utilize sweatshop labor is literally done in their name, saying: "It's your community…which also means you have more influence" (Schlumpf 2001).

Strunk continues with the example that students have power over clothing made for their university, referring to consumers having the power to change sweatshop conditions because businesses cater to what consumers demand. Moreover, if a society or an individual contributes to a company like Nike Town, they are equally accountable for the sweatshop conditions that are utilized by the company.

Both the UCLA study and the Nike Town protest show that activism can be initiated by an individual's awareness of inequalities followed by action. How one develops this awareness or consciousness of societal inequalities may depend on how directly one is affected by such a problem. According to standpoint theory, inequalities by sex, race and class produce a different standpoint (perspectives based on a material reality or social location), or an explanation as a means to articulate how an individual views society. Furthermore, as oppressed people begin to take themselves and their own needs more seriously, they develop the resources needed to fight for change (Kaufman 2003).

Theory

To understand the struggles of the Chicana/o community and how they motivate Chicana/o students to become active, this study examines the Chicana/o student perspective to identify instances of how Chicanos are marginalized within society. For example, historically Chicanas/os have been depicted as aliens, criminals, and non-intellectuals who are only good for subservient work. These racist stereotypes have old historical roots in which colonized minorities were dehumanized to justify dispossession of land, resources, and labor (Blauner 1972; Mirande 1985). Although the form of expressing these racist stereotypes has changed (from de jure to de facto), they continue to be reproduced in imagery and practices by mainstream institutions (Glenn 2002; Collins 2004). Sandra Harding (2004), a philosopher at UCLA, calls this approach strong objectivity, which is the
"intentional practice of starting research from the lives of … marginalized
groups whose perspectives are less partial than those of person's with
power" (Harding 2004). Further, knowledge generated by dominant groups
is referred to as weak objectivity, and will less likely be valued as a complete
or universal source of knowledge.

Conducting this research from the Chicana/o student perspective,
therefore, provides an alternative and more complete perspective than that
of a dominant group. This follows the concept of double consciousness that
suggests that marginalized groups are forced to understand the views of
the dominant group, yet often also maintain and reproduce their own world
views in the safe places of their community (Du Bois 1903; Collins 2004).
Thus, Chicanas/os students identified for this study may modify their
cultural practices in mainstream settings versus their behavior when they
are in the comforts of their homes. If direct experiences of marginalization
would motivate Chicanas/os to become active, then double consciousness
may explain why they would choose to conform rather than engage in
political activism.

**Methodology**

Data for this research was collected through self administered surveys
and qualitative interviews. The surveys were distributed to CSUS Chicana/o
students. Approximately 40 surveys were collected from Chicana/o
students. Members of organizations that were surveyed include MEChA
(Movimiento Estudiantil Chicano de Aztlán), A.S.I. (Associated Students
Incorporated), social "Latino" fraternities and sororities, and M.A.R.
(Mujeres Ayudando La Raza). Surveys were administered to MEChA
members during their summer general body meetings and collected from
members of ASI student during their regular business hours. Additional
surveys were attained by randomly selecting students who were walking in
the campus library breezeway.

**Data Analysis**

A data set was created on SPSS using the responses from the Civic
Engagement Survey. The survey was created to measure the level of civic
engagement among Chicana/o students at CSUS, and to measure the direct
social experiences of marginalization. The survey includes statement such
as: "Forces beyond my family's control have severely limited our access to
education," and collected answers that would indicate a limited access to
resources. A frequency table summarizes the distribution of responses for
each variable. Cross-tabulation analysis tests the key hypothesis: association
between sentiments of marginality and political or civic involvement.
Furthermore, this study examines the relationship between the following
variables: respondent's involvement in student government or student organizations, participation in the community, political actions or cultural events and respondents who "agree" or "strongly agree" that forces beyond their family's control have limited their access to education, jobs and economical advancement.

Respondent Characteristics

Female respondents, at 65.1%, greatly outnumbered their male counterparts. Fifty-one percent of the respondents indicated that their total family income is $0-25,000 per year or less; 90.7% stated that at least one parent was foreign born. Additionally, 76.9% of the sample population stated that English was not their first language. Nineteen of the 43 respondents who stated that they were involved in student government or organizations were members of MEChA. MEChA is a National Chicana/o student organization that emerged from the Chicana/o Movement in the 1960s. Collectively, the organization has fought for the implementation of Chicana/o Studies and outreach and retention programs, such as Educational Opportunity Program (EOP). Its goals include promoting higher education, increasing retention, encouraging participation in political issues, retaining cultural identity and working with the Chicana/o community. In the area of education, 83.7% of the respondents are first-generation college students. Standpoint theorists would say that these Chicana/o students have a more valid perspective in understanding their social location in society than would a white male or upper class person who is part of the dominant culture. For example, if asked about why they are first-generation at college, working-class Chicanas/os will understand at a personal and intimate level, both the individual and external forces that complicate their achievement of higher education. Managing difficult living circumstances, such as living in a working class environment with two working parents who have little access to childcare facilities, Chicanas/os often find themselves at a young age babysitting younger siblings, and doing household chores that often take time away from academic pursuits. These circumstances are further compounded by their attending extremely underfunded and resource-strained schools. These personal experiences greatly enhance their understanding of social injustices and their motivation to end educational disparities. This experience contrasts to those of middle-class youth whose worries do not extend to surviving poverty. Their more privileged positions may constrain their understanding of the lack of school success for some students to individualized explanations, such as "Oh they lack motivation, or they are not as intelligent or their families don't value education."
It is worthwhile to note that standpoint analysis does not suggest that only "brown" people understand "brown" people, or that only poor people understand poor people, rather it emphasizes the significance of direct social experience in shaping mind and behavior.

**Findings**

Although the Chi-square value shows that there is no statistical significance, there was a significant association between student activism and participants' experiences with "forces beyond their control." A cross-tabulation was produced between the following variables: "students who were involved in student government or student organization" and "forces beyond [their] control have limited [their] access to education, jobs and economical advancement" (Chi-Square = .152, .183, .093, p = .05). Seventy to 80 percent of respondents who stated that they were involved in student government or a student organization "strongly agreed" or "agreed" that forces beyond their or their family's control have limited their access to education, jobs and economical advancement (See Table 1-3.2, Appendix 2). In addition, Sixty-seven percent of respondents who "strongly agreed" or "agreed" that forces beyond there control has limited their own or family's access to jobs, education or economical advancement also stated that they were involved in organizing or participating in political actions, community service and cultural events (Chi-Square = .348, p = .05) (See Appendix 3).

These associations are important because they show that experiences with forces beyond one's control (e.g. discrimination and poverty) stimulate students into social activism rather than to passivity and conformism. Experiences of forced limitations are common patterns that can be used to understand the development of the respondent's involvement. Basing this study on the perspective of a marginalized group who has experienced limited access to education or economical advancement, allows for further inquires on such disparities to be further developed.

In response to the question, "Do personal experiences motivate CSUS Chicana/o students?" and "Why do those who share similar experiences conform rather than engage in political activism?" 60 percent of the sample population would "strongly agreed" or "agreed" that their social experiences of marginalization have contributed to their political activism. In contrast, a respondent who indicated that he/she was not involved politically yet had experienced social marginalization stated that he/she lacks the information needed to take action, stating: "I would not know where to begin." This indicates that extra efforts are not made to actively change social inequalities.
Further inquiry for future research could explore the question: "Is activism a luxury some cannot afford?" Further research also needs to be conducted using a larger sample size of 100 surveys or more, in addition to administering larger pool of personal interviews. In addition, other research could identify the forces that motivate those who are not affected or marginalized by a particular injustice to engage in political activism. A limitation of this study was its small sample which does not allow a strong statistical significance to be determined.

CONCLUSION

The current study examined the perspective of the Chicana/o student and its link to social activism. Just as research grounded in the perspective of the marginalized is referred to as having "strong objectivity," so too is political action that is ground form the marginalized perspective. It is in such a perspective, distinct from the dominant view and transgressive in its power, that we may find keys toward social change.
REFERENCES


Crosstabs

Table 1.1 Appendix 2

Student org or student gov involvement * Forces have limited access to education

<table>
<thead>
<tr>
<th></th>
<th>Count % within student org or student gov involvement</th>
<th>Forces have limited access to education</th>
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</tr>
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</tr>
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<td>no</td>
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<td>Total</td>
<td>Count % within student org or student gov involvement</td>
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Table 1.2

Chi-Square Tests

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<td>Likelihood Ratio</td>
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<td>.079</td>
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<td>Linear-by-Linear Association</td>
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<td>.586</td>
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<td>N of Valid Cases</td>
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</table>

* 6 cells (75.0%) have expected count less than 5. The minimum expected count is .36.
Table 1.1 Appendix 3

Participated or Organized political actions, community service and cultural events *
Forcess have limited access to edu, jobs and economical advancement  Crosstabulation

<table>
<thead>
<tr>
<th>sanitised_cells</th>
<th>Count</th>
<th>% within involvement</th>
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</tr>
<tr>
<td></td>
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<td>8</td>
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Table 1.2

Chi-Square Tests

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<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
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<td>.348</td>
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<td>Continuity Correctiona</td>
<td>.370</td>
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<tr>
<td>Likelihood Ratio</td>
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<td>Fisher's Exact Test</td>
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<tr>
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a. Computed only for a 2x2 table
b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.58.
### Frequencies

**Statistics**

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#### Experience of marginalization helped me become politically active

<table>
<thead>
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<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<td>60.5</td>
<td>61.9</td>
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<td>Strongly disagree</td>
<td>7</td>
<td>16.3</td>
<td>16.7</td>
<td>78.6</td>
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<td>disagree</td>
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<td>4.8</td>
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</table>

---

#### Experience of marginalization helped me become politically active

![Graph showing the distribution of responses to the statement about marginalization helping become politically active.](chart.png)

- **Strongly agree / Agree**: 60.5%
- **Disagree**: 16.3%
- **Strongly disagree**: 4.7%
- **d/k**: 2.3%
- **n/a**: 14.0%
The Influence of Student English Proficiency and Free Lunch Qualification on the Proximity of Liquor Stores and the Availability of School Resources

Lia I. Cisneros

ABSTRACT

Past findings have shown that children of low socio-economic status living in non-White neighborhoods are exposed to alcohol advertisements in their immediate environment more frequently than are children of high and middle socio-economic status living in predominantly White neighborhoods. This researcher proposed that a similar trend would be found in Sacramento, California, by hypothesizing that schools having a large percentage of students who qualify for free lunch programs and who are not English proficient would be more closely located to liquor stores and would provide fewer educational resources to its students. Sixty elementary schools in Sacramento, California were evaluated. The hypotheses were supported. The findings are explained within the context of aversive prejudice.

Data from 2002 informs us that alcohol companies spent $1.9 billion on alcohol advertisements in television, radio, and major newspapers, and $5.7 billion or more on alcohol advertising through sponsorship, online ads, point of sale materials and other mediums. Past research demonstrates that alcohol advertisements are more prevalent in low socio-economic status (SES) neighborhoods and non-White neighborhoods (Altman, Schooler, & Basil, 1991). Although this data is alarming, it does not explain why there is a disparity in the display of alcohol advertisements based on the neighborhood in which they appear.

Findings by Altman, Schooler & Basil (1991), show that Black and Hispanic neighborhoods have the largest proportion of alcohol advertisements. Conversely, alcohol advertisements are not as prevalent in White and Asian neighborhoods. From past research, it can be asserted that alcohol companies are aware of the ethnic composition of neighborhood because they are selective of advertisements, depending on the neighborhood demographics. For example, not only do the models appearing in alcohol advertisements match the ethnic composition of the neighborhood (Schooler, Basil, & Altman, 1996), but advertising of beer and wine tends to be higher in Hispanic neighborhoods, and malt liquor advertising appears frequently and almost exclusively in Black neighborhoods (Altman, Schooler, & Basil, 1991).

Besides the existing discrepancy in the quantity of advertisements coinciding with ethnic composition of neighborhoods, Wildey et al., (1992)
suggest that fewer corporate owned convenient and supermarket stores are found in non-White areas. Instead, independent markets and liquor stores are more common and tend to display a high number of advertisements (Woodruff et al., 1995). Thus, alcohol companies seem to target Black and Hispanic populations in their marketing campaigns.

**Aversive Prejudice**

Old-fashioned racism is blatant discrimination against an individual because of his or her racial group membership. However, new types of subtle racism have emerged, since the Civil Rights Movement it has become politically incorrect to be openly racist. Modern racists perceive themselves as egalitarians. They hold ideas of equality and want equal opportunity for groups that have been mistreated in the past (Franzoi, 2000). At the same time, seeing stereotypes in the media depicting other racial groups in a negative way, leads to confusion and mixed feelings towards other racial groups. Thus, when interacting with a person of another racial group, some people find themselves feeling uncomfortable and anxious. Such feelings make them feel embarrassed, so they tend to avoid interacting with people from other racial groups (Franzoi, 2000). This response leads to subtle rather than blatant forms of discrimination against disadvantaged groups because of these mixed feelings, this type of prejudice is called *aversive prejudice*.

**RESEARCH HYPOTHESES**

The present study investigated how free lunch program qualification and English proficiency are related to the location of liquor stores and the availability of school resources. It was hypothesized that elementary schools that largely educate poor, non-English speaking children are more likely to have a liquor store within a five-mile radius than are public schools that largely educate English speaking children with high socio-economic status. In addition, this researcher predicts that poor, non-English speaking children have access to fewer school resources than English proficient children with a high socio-economic status. This study examined whether student English proficiency and the percentage of students who qualify for free lunch correlated with the proximity of liquor stores to elementary schools in the city of Sacramento and the availability of school resources. Findings are interpreted and analyzed within the framework of aversive racism.

**METHODOLOGY**

Sixty elementary schools from the Sacramento Unified School District were part of the study. The School Wise Press, a California schools
statistics website, was used to obtain information concerning school location. In addition, it provided information for each school concerning the number of students enrolled, the number of students per teacher, the average class size, the number of students per computer, years of teachers' experience, and teachers' credentials. In addition, the website identified the percentage of students who received free lunch and the percentage of students who were not English proficient.

The Southern Bell Corporation Yellow Pages were used to locate the 107 businesses categorized as liquor stores in the Sacramento area. The distance from school to stores was acquired by using the Rand McNally Sacramento city map and Yahoo! Driving Directions Internet service.

RESULTS

This study correlated the number of liquor stores within a five-mile radius of elementary schools in the city of Sacramento to the percentage of students who qualify for free lunch and the percentage of students who are English proficient. Pearson correlations for all variables were calculated. As shown in Table 1, multiple significant correlations are pertinent to the research hypotheses.

Liquor Stores. As shown in Table 1, the data indicate that as the number of students qualifying for free lunch increased, the number of liquor stores within a five-mile radius of the school increased, \( r (59) = .45, p < .01 \). In addition, as the number of students not proficient in English increased, the number of liquor stores within a five-mile radius of the school increased, \( r (59) = .39, p < .01 \).

Relationship of Free Lunch Qualification and School Resources. As shown in Table 1, the data indicate that as the number of students qualifying for free lunch increased, the number of average years of teaching experience of the teachers decreased, \( r (59) = -.56, p < .01 \). Furthermore, as the number of students qualifying for free lunch increased, the number of teachers holding secondary teaching credentials decreased, \( r = -.53, p < .01 \). Conversely, as the number of students not holding full teaching credentials also increased, \( r (59) = .44, p < .01 \).

Relationship of Student English Proficiency to School Resources. The data indicate that as students' English proficiency decreased, teachers' years of teaching experience decreased, \( r (59) = -.61, p < .01 \), the number of teachers holding full credentials decreased, \( r (59) = .52, p < .01 \), and the number of teachers holding secondary teaching credentials decreased, \( r = -.44, p < .01 \). See Table 1.

Supplementary Findings. There were several measures of school
resources that did not significantly relate to free lunch qualification and English proficiency. These are shown in Table 2. The means of all the variables are shown in Table 3.

**DISCUSSION**

To know whether people across all ethnicities and socio-economic status are exposed to and have similar access to resources in their environment is important because it makes us conscious of whether everyone has an equal opportunity to succeed and it provides insight into possible discriminatory practices. It was hypothesized that public schools that largely educate poor, non-English proficient children would have more liquor stores nearby and be provided with fewer school services to their students in comparison to public schools that largely educate English proficient children with higher socio-economic status. These hypotheses were supported, showing that there is a discrepancy in the number of liquor stores and school services available to children depending on student English proficiency and socio-economic status. Results demonstrate consistency with previous findings supporting that more liquor stores are found in non-White neighborhoods (Wildey et al., 1992; Woodruff et al., 1995). In addition, it can be stated that children who live in low socio-economic status neighborhoods are more exposed to alcohol advertisements (Woodruff et al., 1995; Altman, Schooler & Basil, 1991).

Not only are non-English proficient and low income children exposed to more alcohol, but they also received fewer educational resources in school. As predicted, this study found that non-English proficient and low-income children receive fewer school resources, in comparison to the resources available to children who are English proficient and have a higher socioeconomic status. These findings suggest that there is a lack of effort to provide quality education across all levels. Contrary to expectations, non-English proficient children and low-income children receive less help in order for them become academically equal with those that are at an advantage. This disparity of liquor stores and school services can be interpreted as evidence that aversive prejudice influences the educational experience of children who are not English proficient or who are of a lower income.

The inequality found in relation to liquor stores and school resources in Sacramento city is not obviously apparent. Thus, this research is important because it reveals the educational disparities experienced in schools as a function of student English proficiency and socioeconomic status. Although overt prejudice is not easily apparent the limited aid in terms of education and the existence of liquor stores in their areas of
residency does not demonstrate that all children experiences are equitable. Thus, it can be argued that the disparity in school resources and the number of liquor stores close to elementary schools is a subtle form of prejudice.

LIMITATIONS

There were some limitations in this investigation. The researcher only had four weeks to collect the data. If had been available, the number of alcohol advertisements per liquor store would have been considered, which would have made findings more relevant to previous studies. In addition, because this research is correlational, we cannot be sure that English proficiency and socioeconomic status are the direct cause of reduced educational resources and increased proximity of liquor stores. Also, these findings are only relevant to the city of Sacramento and results cannot infer a similar situation elsewhere. Research in other areas of California is necessary to find out whether this trend is found in other regions. Future research should consider expanding the region being considered for investigation; for example, studying if this phenomenon is present at the county, state, or national level.

CONCLUSION

This study's findings add to the previous body of investigation on the disparities of alcohol exposure, depending on ethnic composition and socio-economic status of the areas being considered. Such findings are important to the city of Sacramento and will possibly encourage activists to help change the dissimilarities that exist within the area. All children deserve the best quality education, but also an environment in which exposure to alcohol advertisements is limited.
REFERENCES


### Table 1

**Intercorrelations on Measures of School Resources that are Significantly Related to Student Socioeconomic Status and English Proficiency**

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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. % of Students Not Proficient in English</td>
<td>.76**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Number of Liquor Stores Within 5 Mile Radius of School</td>
<td>-.45**</td>
<td>.39**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. % of Teachers Not Holding Full Teaching Credentials</td>
<td>.44**</td>
<td>.52**</td>
<td>.20</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. % of Teachers with Secondary Teaching Credentials</td>
<td>-.53**</td>
<td>-.61**</td>
<td>-.04</td>
<td>-.43**</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Mean Years of Teaching Experience</td>
<td>-.56**</td>
<td>-.44**</td>
<td>-.18</td>
<td>-.54**</td>
<td>.63**</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>7. Mean Number of Students Per Teachers</td>
<td>-.31*</td>
<td>-.29*</td>
<td>-.08</td>
<td>-.24*</td>
<td>.36**</td>
<td>.29*</td>
<td></td>
</tr>
</tbody>
</table>

*Note. ** indicates the coefficient is significant at p < .01; * indicates the coefficient is significant at p < .05.*

### Table 2

**Intercorrelations on Measures of School Resources that are not Significantly Related to Student Socioeconomic Status and English Proficiency**

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. % Eligible for Free Lunch</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. % of Students Not Proficient in English</td>
<td>.76**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. % of Teachers Holding Elementary Teaching Credentials</td>
<td>.18</td>
<td>.12</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Mean Class Size</td>
<td>.09</td>
<td>.15</td>
<td>.22</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Mean Number of Students Per Computer</td>
<td>-.15</td>
<td>-.18</td>
<td>.01</td>
<td>-.097</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>6. Mean Number of Students Enrolled in Elementary School</td>
<td>.15</td>
<td>.23</td>
<td>.06</td>
<td>-.22</td>
<td>-.00</td>
<td>--</td>
</tr>
</tbody>
</table>

*Note. ** indicates the coefficient is significant at p < .01*
Table 3

*Means and Standard Deviations of School Resources, Student Socioeconomic Status and English Proficiency*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible for Free Lunch</td>
<td>71.07</td>
<td>29.14</td>
</tr>
<tr>
<td>Students Not Proficient in English</td>
<td>32.51</td>
<td>17.77</td>
</tr>
<tr>
<td>Number of Liquor Stores Within 5 Mile Radius of School</td>
<td>16.01</td>
<td>5.51</td>
</tr>
<tr>
<td>Teachers Not Holding Full Teaching Credentials</td>
<td>18.28</td>
<td>19.76</td>
</tr>
<tr>
<td>Teachers with Elementary Teaching Credentials</td>
<td>96.45</td>
<td>7.86</td>
</tr>
<tr>
<td>Teachers with Secondary Teaching Credentials</td>
<td>31.93</td>
<td>12.91</td>
</tr>
<tr>
<td>Years of Teaching Experience</td>
<td>11.78</td>
<td>3.60</td>
</tr>
<tr>
<td>Number of Students Per Teachers</td>
<td>21.16</td>
<td>2.04</td>
</tr>
<tr>
<td>Number of Students Per Computer</td>
<td>9.56</td>
<td>7.18</td>
</tr>
<tr>
<td>Average Class Size</td>
<td>20.66</td>
<td>1.29</td>
</tr>
<tr>
<td>African American</td>
<td>22.35</td>
<td>11.53</td>
</tr>
<tr>
<td>Asian</td>
<td>21.53</td>
<td>12.55</td>
</tr>
<tr>
<td>White</td>
<td>25.21</td>
<td>17.95</td>
</tr>
<tr>
<td>Latino</td>
<td>28.16</td>
<td>11.46</td>
</tr>
<tr>
<td>Number of Students Enrolled</td>
<td>528.53</td>
<td>159.18</td>
</tr>
</tbody>
</table>
Exploring the Death Penalty: An Analysis of the Disparity Hypothesis

Luis De La Torre

ABSTRACT

Over the past decade, there has been some debate about equity in the criminal justice system. In an attempt to reenergize the dialogue about how African-Americans and whites are sentenced, this research analyzes data published by the National Institute of Justice to explore the sentencing disparity hypothesis as it relates to the imposition of the death penalty between whites and African-Americans from 1999-2002. The purpose of this research effort is to discern whether a sentence of death is imposed disproportionately for African-Americans in comparison to their white counterparts. Additionally, this research uses statistics from the 2000 Report of the Census and the number of capital crimes, as reported by the Federal Bureau of Investigation's Uniform Crime Reports, to assess how African-Americans are punished in the United States by looking at variables such as income and educational attainment. Using the most widely accepted scholarly resources to guide this venture, the main goal of this examination is to resurrect the debate regarding the prevalence (or lack thereof) of the death penalty sentencing disparity hypothesis. The majority of studies reviewed herein overwhelmingly reveal that African-Americans who kill whites are more likely to be punished by death than are whites who kill an African-American. If this finding is true, it is important for scholars of criminal justice to disseminate this information so that policymakers and public officials can be made aware of this disparity, and develop interventions to prevent further indiscretions in the realm of sentencing disparity. If this finding is untrue, then a more thorough examination of the scholarship in this area deserves serious reconsideration as to its validity.

This study examines whether the criminal justice system in the United States treats African-Americans differently than whites in regards to death penalty sentencing. This research looks specifically at data in regions across the United States, and assess the disparity issue among minority males and white males with regard to the administration of capital punishment. Prior research has found that minority males are more likely to be sentenced to death than are their white counterparts (Coker, 2003). The research reviewed herein demonstrates this inequity, in that minority males have always had to fight harder for fair treatment than do their white male counterparts when they are charged and sentenced for a heinous crime. Historically, in the US, African-Americans and other minority groups
have consistently been treated unequally (Sorensen, 1999). It is apparent to researchers who look at the historical treatment of people of color that they are often seen as inferior in the eyes of white society (Uelmen, 1986). When controlling for factors such as income, age, and level of education, MacDonald (2001) found that regardless of the apparently similar circumstances of African-Americans and Hispanics (in terms of income and education), their inequitable situations are viewed differently by whites. MacDonald (2001) concludes that people in Florida believe that interpersonal shortcomings are responsible for the inequality experienced by African-Americans. White Floridians believe that "lack of motivation" explains black inequality to a greater extent than it does Hispanic inequality, and they also believe that "no chance for education" is more prevalent for Hispanics than for African-Americans—although to a lesser extent.

The reality is that, today, African-American males and other minorities, in general, are not treated equally in the criminal justice system in comparison to whites. The US still treats people of color differently because they are considered a minority (Coker, 2003). The unequal treatment of African-American people dates back to when they were brought to the United States as slaves (Jayewarden, 1977). Long et al. (1975:31) posits that when a study of the American legal system is performed, it reveals that the "founding fathers did not intend to include black men in the American body politic." Unfortunately, laws were developed and enacted in decades past to continue this unequal treatment. Jim Crow Laws that specifically targeted African-Americans are a prime example (Gradall, 1996). The purpose of the Jim Crow laws was to terrify, beat, discriminate and make the life of African-Americans miserable (Gradall, 1996). Long et al. (1975:35) note that the Jim Crow laws were meant to regulate:

...every dimension of social contact between blacks and whites.
Separate building entrances and exits, seating arrangements in theatres (or separate theatres), public transportation, waiting rooms in railroad states (and later, separate bus stations and airports), toilets, drinking fountains, hotels, restaurants, and other accommodations were required of blacks.

African-American males today are characterized as offenders in many different types of crime. People fail to realize that African-American males are treated differently by the criminal justice system than their white counterparts are. Racism, bias, prejudice, and unequal treatment continue,
and as a result, African-American males are sentenced more harshly than are white males, particularly in for capital crimes.

Coker (2003:827) suggests "...that out of the 682 death penalty cases looked at, forty-eight percent of these cases involved African-Americans who were going to get the death penalty." Coker (2003) also found that only twenty percent of the cases that involved white male criminals received a capital sentence. As noted by Coker (2003), African-American males are more likely to be sentenced to death than white males are. In the judicial system, there are many different ways racial disparity affects African-Americans and whites, with respect to capital punishment.

**Literature Review**

Racial disparities among African-Americans and whites show up in every aspect of the criminal justice system (Anonymous, 2003). African-Americans face a thirty-eight percent higher death-sentencing rate than do other defendants who commit similar crimes (McMurry, 1998). African-Americans, when compared with other defendants of different ethnicities (including white defendants who commit similar crimes, such as first-degree murder), have a higher likelihood of being sentenced to the death penalty. One reason may be that most of the prosecutors who decide when the death penalty will be pursued are almost exclusively white men (McMurry, 1998). These two factors come together to show that race plays a decisive role in the question of who lives and who dies among convicted criminals in the US, with African-Americans much more likely to face capital punishment than other defendants (McMurry, 1998). Two other major factors in sentencing disparity are the circumstances of the crime and the prosecutor's decision to sentence the defendant to death.

The sentencing decisions in homicide cases involving African-American defendants and white victims were worse than other racial combinations in all of the pre-trial decisions made. African-American defendants were more likely to:

- be charged with first degree murder,
- be served notice of aggravating circumstances, and
- proceed to capital trial (Sorensen, 1999).

Sorensen (1999) believes that African-Americans are being treated unequally because of their race. While African-Americans are being sentenced to the death penalty, whites are being sentenced to lesser punishment for similar crimes (Coker, 2003).

Helms (2002:577) suggests that "African-American males receive longer sentences when local courts are embedded in conservative political environments where a law and order presidential candidate received more
votes." The public's point of view also affects racial disparity.

Helms (2002) also points out that: "Myers and Talarico (1987) analyzed sentences in Georgia and found some evidence for racial threat explanations when analyzing sentencing in the state of Georgia." One significant finding of theirs relates to the perceived threat whites have toward blacks. The racial threat explanation is the perception that, if the people in these communities thought that African-American males were a threat, they would receive longer and harsher punishments for their crimes. The researchers also found that severe sentences were likely in some counties with more African-Americans, and high rates of violent crime. For example, African-Americans were likely to be sentenced to capital punishment when they could have received a lesser punishment, but because they are a racial threat, the people who influence the courts' decisions become a factor in the sentencing process. Also, "racial or economic threat may produce divergent sentences because dominant whites successfully demand harsher punishments in court environments where minorities are more numerous or where unemployment is greater" (Helms, 2002).

Participants in the General Social Survey (GSS), which has been administered almost annually by the National Opinion Research Center (NORC) since 1972, approve of the use of capital punishment for those found guilty of murder in this country. This far reaching survey has included more than 38,000 respondents who have answered over 3,260 different questions. Table 1 illustrates how this trend continued between 1974 and 1996, with significant increases in the approval rate in years when a conservative administration occupied the oval office (Ford 1974-1977, Regan 1981-1989, and Bush 1989-1993).

As illustrated in Table 1, people's political party affiliation and their beliefs about the agenda of the administration of their political party may influence the harsher punishment of African-American males. Helms (2002:582) notes that "Molnar, (1976) suggests that Republicans often claim that deterrence and incapacitation are the most appropriate way to deal with lawless behavior. In addition to these ideologically based justifications for severe punishments, many conservatives see retribution as morally legitimate because offenders have freely chosen to commit pernicious illegal acts." When African-American males commit crimes in locations where Republicans are in charge and maintain rigid standards of how people should be prosecuted by the criminal justice system, harsher punishments for African-American males result.
As a result of this trend, Helms (2002:583), suggests "...admissions by Republicans that they use law and order rhetoric to gain votes from citizens who dislike minorities (Edsal & Edsal, 1991) and the Sr. Bush campaign's (1989) emphasis on a violent black criminal (Willie Horton) suggest that black offenders will be punished more harshly in jurisdictions where these political appeals were most successful." (Helms, 2002:583).

The fact that "eighty-nine percent of the defendants selected by federal prosecutors for capital punishment under the drug kingpin statute were African-American, whereas the majority of those charged under the general statue have been white defendants" (Sorensen, 1999:560) further illuminates the sentencing disparity between African-Americans and whites. One might conclude that African-Americans are treated unequally because of their race, if Sorensen (1999) is correct. But another factor may play a role in answering the question: By calculating the differences between sentencing of African-Americans and the sentencing of whites charged and convicted of the same crime. Why is it that African-Americans are the most likely candidate for strict punitive measures? According to Lynch (2000), this may happen because racially-biased and capricious death sentencing may be, in part, caused or exacerbated by the inability of jurors to comprehend penalty phase instructions. Lynch's finding suggest that juries

<table>
<thead>
<tr>
<th>GSS YEAR</th>
<th>FAVOR</th>
<th>OPPOSE</th>
<th>TOTAL</th>
<th>PERCENT FAVOR</th>
<th>PERCENT OPPOSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>933</td>
<td>471</td>
<td>1404</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>1975</td>
<td>891</td>
<td>492</td>
<td>1383</td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>1976</td>
<td>980</td>
<td>446</td>
<td>1426</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td>1977</td>
<td>1022</td>
<td>401</td>
<td>1423</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>1978</td>
<td>1016</td>
<td>427</td>
<td>1443</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>1980</td>
<td>982</td>
<td>390</td>
<td>1372</td>
<td>71%</td>
<td>29%</td>
</tr>
<tr>
<td>1982</td>
<td>1263</td>
<td>474</td>
<td>1737</td>
<td>73%</td>
<td>27%</td>
</tr>
<tr>
<td>1983</td>
<td>1169</td>
<td>354</td>
<td>1523</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>1984</td>
<td>1029</td>
<td>347</td>
<td>1376</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>1985</td>
<td>1154</td>
<td>297</td>
<td>1451</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>1986</td>
<td>1046</td>
<td>344</td>
<td>1390</td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td>1987</td>
<td>1166</td>
<td>519</td>
<td>1685</td>
<td>69%</td>
<td>31%</td>
</tr>
<tr>
<td>1988</td>
<td>1045</td>
<td>328</td>
<td>1373</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>1989</td>
<td>1133</td>
<td>314</td>
<td>1447</td>
<td>78%</td>
<td>22%</td>
</tr>
<tr>
<td>1990</td>
<td>1018</td>
<td>264</td>
<td>1282</td>
<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>1991</td>
<td>1078</td>
<td>336</td>
<td>1414</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>1992</td>
<td>1151</td>
<td>337</td>
<td>1488</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>1994</td>
<td>2215</td>
<td>580</td>
<td>2795</td>
<td>79%</td>
<td>21%</td>
</tr>
<tr>
<td>1996</td>
<td>2059</td>
<td>621</td>
<td>2680</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>Total</td>
<td>22350</td>
<td>7742</td>
<td>30092</td>
<td>74%</td>
<td>26%</td>
</tr>
</tbody>
</table>
might not be equipped to understand what type of crime calls for a sentence of death.

African-Americans accused of killing whites are significantly more likely than other accused murderers to face the death penalty (Anonymous, 2003). The ethnic distribution of death judgments since 1978, reflects a higher proportion of minorities than any previous time (Neff, 1981), with African-Americans comprising fifty-five percent of the 540 defendants, and whites comprising forty-three percent of possible defendants facing the death penalty (Langan, 1995). More police, prosecutors, "three strikes" laws, and mandatory sentencing laws disproportionately place more African-Americans behind bars, and subject them to the death penalty when compared to whites (Hutchinson, 2002). Plainly stated, the death sentence is disproportionately imposed and carried out on the poor, the African-American, and the members of unpopular groups (Gradall, 1972).

There still may be another explanation for the sentencing disparity related to the public's perception of the plight of the minorities in America. The GSS data presented in Table 2 indicates that the majority of respondents generally feel that racial differences in this country are due to interpersonal flaws (e.g., lack of will) rather than problems with the structure of our system of justice.

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>BELIEF THAT RACIAL DIFFERENCES IN SOCIETY ARE DUE TO LACK OF WILL</th>
<th>GSS SURVEY 1977-1996</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>GSS YEAR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1977</td>
<td>836</td>
<td>434</td>
</tr>
<tr>
<td>1981</td>
<td>857</td>
<td>547</td>
</tr>
<tr>
<td>1982</td>
<td>539</td>
<td>393</td>
</tr>
<tr>
<td>1983</td>
<td>565</td>
<td>378</td>
</tr>
<tr>
<td>1984</td>
<td>788</td>
<td>463</td>
</tr>
<tr>
<td>1985</td>
<td>562</td>
<td>399</td>
</tr>
<tr>
<td>1986</td>
<td>527</td>
<td>476</td>
</tr>
<tr>
<td>1987</td>
<td>964</td>
<td>882</td>
</tr>
<tr>
<td>1988</td>
<td>926</td>
<td>902</td>
</tr>
<tr>
<td>Total</td>
<td><strong>7410</strong></td>
<td><strong>5513</strong></td>
</tr>
</tbody>
</table>

Various cases that have gone to the Supreme Court show the disparity to which African-American defendants have been subjected. In the case of *Turner v. Murray* (1986), Turner, an African-American male, appealed his conviction claiming that the judge's refusal to ask prospective jurors about their racial attitudes deprived him of his right to a fair trial (The Information Series on Current Topics, 1990). In a similar case, *McCleskey v. Kemp* (1987), McCleskey, another African-American, was convicted of
murdering a white police officer. McCleskey eventually appealed his case all the way to the Supreme Court. Part of his appeal was based upon two major statistical studies of 2000 Georgia murder cases prepared by Professors Buldus, Woodworth, and Pulanski (1987), called the "Baldus" Study. The Baldus study found that prosecutors sought the death penalty in seventy percent of the cases involving African-American defendants and white victims in comparison to nineteen percent of the cases involving white defendants and African-American victims (Larson, 2003).

In addition, the Bureau of Justice Statistics Bulletin on Capital Punishment in the years 1999-2002, revealed that there are a variety of ethnicities that are sentenced to the death penalty. Additionally, this bulletin provides a detailed description of the types of crimes for which capital punishment can be used. For example:

- Alabama's definition of such a crime is "Capital murder with a finding of at least 1 of 10 aggravating circumstances".
- Arizona's definition is "First-degree murder accompanied by at least 1 of 10 aggravating factors".
- North Carolina's definition is "First-degree murder".
- California's definition is "First-degree murder with special circumstances; train wrecking; treason; perjury causing execution".

Other states also have capital punishment laws, and all have different definitions of what is required to be sentenced to death. Between 1999-2002, there were 38 states that had capital punishment statutes. This disparity in the definition of what constitutes a capital crime provides a partial answer as to why some states use capital punishment and have more people on death row.

Furthermore, the reports of the Bureau of Justice Statistics show that there are disparities in the use of capital punishment within different regions across the United States (Northeast, Midwest, South, and West). States in the Northeast and Midwest regions have more African-American males imprisoned under the sentence of death than their white male counterparts. For example, in the Northeast region, there are 150 African-American males sentenced to death compared to 86 white males. The Midwest region has 254 African-American males sentenced to death compared to 242 white males (U.S. Department of Justice, 1999).

Similar statistics show up in the year 2000 for the Northeast region, where 154 African-American males were sentenced to death compared to 89 white males. In the Midwest region, 250 African-American males were sentenced to death compared to 247 white males (U.S. Department of Justice, 2000). In the year 2001, the Northeast region had 162 African-
American males sentenced to death compared to 96 white males. In the Midwest region, 251 African-American males were sentenced to death compared to 248 white males (U.S. Department of Justice, 2001). Finally, in the year 2002, the Northeast region had 161 African-American males sentenced to death compared to 98 white males. In the Midwest region, a total of 244 African-American males were sentenced to death compared to 238 white males (U.S. Department of Justice, 2002).

These reports show the disparity between African-American males and their white male counterparts, in regards to white males receiving a punishment of death. African-American males only make up 37.6% of the prison population that is removed from the death penalty versus 60% of white males being removed from the death penalty (U.S. Department of Justice, 1999). Over this four-year span, beginning in 1999 and ending in 2002, the number of African-American males removed from the death penalty conviction has been consistently less than the rate for white males. The following illustrates this statistic:

- In 2000, 41% of African-Americans were removed from the death penalty compared to 57% of whites.
- In 2001, 37% of African-Americans were removed compared to 62% of whites.
- In 2002, 32% African-Americans were removed compared to 67% of whites.

These numbers reveal that racial disparity is one explanation for the treatment of African-Americans sentenced for capital crimes. Although it is not discussed in the paper, an alternate explanation might be that African-Americans are less likely to have the resources to hire a defense team that diligently follows through with the lengthy appeal process.

**Research Question**

As a result of the strong arguments presented in the preceding literature review, the following research question is proposed: Do location, socioeconomic status, and educational attainment affect the imposition of the death sentence on African-American males? This research question hints that racial discrimination plays a role in the sentencing within the criminal justice system when defendants are African-American, as compared to their white counterparts convicted of the same crime.

**Methodology**

In an attempt to revive the debate over the sentencing disparity between African-Americans and whites, this researcher explored data published by the National Institute of Justice (NIJ), examined homicide/
manslaughter crimes reported by the Federal Bureau of Investigation’s Uniform Crime Reports (UCR), and used demographic data derived from the 2000 US Census Bureau Report. This study uses evidence from the NIJ report(s) on the administration of the death penalty, and the 2000 Census of the Population to examine the affects of race, income, and educational attainment on the application of the death sentence on African-Americans between 1999-2002. It is argued here that the data strongly suggests that levels of income, ethnic diversity, and educational attainment constitute important elements of context in examining the sentencing disparity hypothesis.

In order to examine the factors that affect the imposition of capital punishment on African-American offenders, the dependent variable used in the Ordinary Least Squares (OLS) regression analysis that follows represents the rate of African-Americans who were sentenced to death between 1999 and 2002. The independent variables used in the OLS regression model were selected to control for local demographics, and the number of capital offenses committed in each state between 1998 and 2001.

Estimation Method

As noted in the preceding sections, an OLS multiple regression model is used to examine the stated research question about the sources of influence on the rate of African-Americans sentenced to death. Gutierrez (2002:154) suggests that "the use of this statistical model requires that a substantial amount of diagnostic work take place on the pattern of distribution present of both the dependent variable and independent variables included in the statistical model."

Prior to running a full regression analysis, Lewis-Beck (1980) posit that researchers should assess the underlying indicators to assure that they meet basic regression model assumptions. The initial analysis of histograms and bivariate scatters against the dependent variable suggested that some transformations were needed in order to meet linear model expectations.

RESULTS/FINDINGS

In order to ascertain the difference between African-Americans and whites who are sentenced to death, two models were used. The model in Table 3 reveals that log of the four-year total for African-Americans sentenced to death is affected by the rate per 100,000 homicides, and the ratio of black to white income because the dependent variables in both models revealed substantial positive skew, (a long right tail in the distribution) a natural log transformation addresses the problem of non-
normal distribution. Subsequent examination of histograms showed significant improvement in the univariate distribution for these two variables. The result reveals that, in areas where there are large gaps in income (where African-Americans tend to be less economically viable than their white (counterparts), and where the homicide rate per 100,000 is high, African-Americans are more likely to be recipients of capital punishment, independent of the region of the country in which they reside. One presumption might be that regions of the country where African-Americans are more economically powerful, this economic advantage manifests in stronger social power. It may be too that, in general, African-Americans are better able to muster an adequate defense in regions where the economic gap between African-Americans and whites is less pronounced.

In Table 4, the log of whites sentenced to death over this four-year time frame is substituted, and the resulting model indicates that none of the previous indicators are statistically significant. This finding leads this researcher to believe that differences in income or homicide rate affects how whites are sentenced to death.

Table 4--Regression Analysis For Log of Caucasian DS 4-Year Total

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Ratio of Black to White Income (BlkPerCap / WhtPerCapita), DummySouth, Rate per 100,000 Homicides 4 Year Total

**ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regressions</td>
<td>154.771</td>
<td>3</td>
<td>51.59</td>
<td>4.271</td>
<td>.012a</td>
</tr>
<tr>
<td>Residual</td>
<td>65.720</td>
<td>34</td>
<td>1.933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>90.487</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Ratio of Black to White Income (BlkPerCap / WhtPerCapita), DummySouth, Rate per 100,000 Homicides 4 Year Total
b. Dependent Variable: LN(CauDS4YearTotal+1)

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>3.670</td>
<td>2.380</td>
<td>1.542</td>
<td>.132</td>
</tr>
<tr>
<td>Rate per 100,000 Homicides 4 Year Total</td>
<td>0.057</td>
<td>0.030</td>
<td>0.350</td>
<td>4.875</td>
</tr>
<tr>
<td>DummySouth</td>
<td>0.04</td>
<td>0.039</td>
<td>0.189</td>
<td>1.014</td>
</tr>
<tr>
<td>Ratio of Black to White Income (BlkPerCap / WhtPerCapita)</td>
<td>-1.130</td>
<td>3.146</td>
<td>-0.066</td>
<td>-3.69</td>
</tr>
</tbody>
</table>

a. Dependent Variable: LN(CauDS4YearTotal+1)
**DISCUSSION**

The major finding of this study is that African-American males convicted of murder are treated differently than are white males convicted of murder (particularly in the South) because of the historical presence of institutionalized racism, bias, and discrimination that exists in the criminal justice system. The US criminal justice system tends to evaluate people based on the color of their skin rather than on their culpability.

The results of this research point to the presence of conflict theory, which Walker, Spohn, and Delone suggest (2004) "...is that the law is used to maintain the power of the dominant group in society and to control the behavior or individuals who threaten the power." The data herein reveals that, in regions where there is more competition for scarce resources (such as high paying jobs, seats in institutions of higher learning), those individuals at the upper end of the socioeconomic scale can leverage their vested interested in the system to continue targeting African-Americans as recipients of harsh forms of social control (such as the death penalty).

**LIMITATIONS**

Like all studies, this research has limitations, and some of the factors that could affect the results were omitted due to time constraints. Other racial groups could have been included, such as Hispanics. In addition, age at the time the crime was committed might also be a factor in the sentencing process that was not considered here. Other factors that could affect results, but were not examined here include jury composition, prosecutorial discretion, and whether DNA was used as part of the evidentiary process. Studies are currently being conducted that will illuminate these areas, and more reliable data is sure to emerge as a result of these efforts.

**CONCLUSION**

The results of the data analysis presented in this study indicate that African-American males convicted of murder are sentenced to the death penalty at a higher rate when they are impoverished, and when there is a high rate of homicide/manslaughter present in the region in which they reside. In a similar analysis, Cheatwood (2002:845) found that "being black and being poor have always increased any homicide offender's chance of being a death row statistic." In a study conducted by D'Alemberte and Amaker (1992:58), "The judge, prosecutor, defense attorney, clerk, stenographer, bailiff, and jurors overwhelmingly are white and the defendant is likely to be black or Hispanic." Given the data revealed here, and the research presented to support the death sentencing disparity hypotheses, it can be concluded that all of these factors contribute to a
difference in the treatment of offenders, the prosecutorial and defense processes, the opinions of judges and, in particular, the selection of jury members. It is important for future studies to incorporate these variables into the analysis of how capital punishment is meted out in regions across the US.

The main goal of this research is to reengage criminal justice scholars in the analysis of how justice is meted out for all citizens, specifically for those who are asked to pay for their crime with their lives. Many people believe that all who enter the criminal justice system are treated equally and that justice is color-blind, but the reality is that those who are prosecuted for a capital offense have other factors at work in the decision to seek the death penalty.
REFERENCES


White Lotuses, Shining Red Lanterns, and the Eternal Mother: The Subversive Legacy of the Wusheng lao mu from the White Lotus Rebellion to the Boxer Movement

Maura Dykstra

ABSTRACT

This research posits that Eternal Mother worship in late imperial China established a cultural precedent for two uprisings in the late eighteenth and early twentieth centuries in China, specifically the White Lotus Rebellions and the Boxer Movement. This argument is based upon the supposition that Eternal Mother worship was inherently heterodox and, as a result, proposed an alternative social order that encouraged anti-dynastic and unorthodox behavior among believers. In order to form a conceptual framework for the argument, in depth background information is provided. Brief histories of the White Lotus and Boxer uprisings are followed by a discussion of the nature of orthodoxy and heterodoxy in China.

This research proposes that Eternal Mother beliefs posed a challenge to Confucian orthodoxy, and examines the evidence of Eternal Mother worship influence in the White Lotus and Boxer uprisings. The probable connection between the two uprisings is discussed in two sections dealing with: (1) the tensions between both movements and traditional authorities; (2) the other with the synthesis between religious and political concerns evident in the beliefs and practices of each. Concluding remarks outline the importance of this study, and its place in the study of history as a whole.

Confucianism, established as the official Chinese state philosophy in second century B.C.E., has long been identified as a seminal part of Chinese orthodoxy. (Many modern historians use a revised system of dating that employs the acronym B.C.E. (Before the Common Era) in place of B.C. (Before Christ), and C.E. (Common Era) in place of A.D. (Anno Domini, or 'In the Year of the Lord.') Confucianism’s influence over the course of history extended throughout the empire until many of its central tenets were widely accepted and considered ethical imperatives by the general population. One challenge to orthodoxy in late imperial China was Eternal Mother worship, which originated in sixteenth-century texts and gained popularity in the rural countryside that later served as the base for the White Lotus and Boxer uprisings. The most central concern of this study is the relationship between Eternal Mother worship and militant millenarian revolt. This examination involves an inquiry into whether or not Eternal Mother sects were - as the Ming (1368-1644) and Qing (1644 -
1912) governments purported - inherently rebellious because of their heterodox beliefs. An examination of the nature of heterodoxy accompanies a discussion of if, how, and why Eternal Mother worship was a direct challenge to the established order. It is argued that the beliefs of Wusheng lao mu venerators established a cultural precedent for both the White Lotus and Boxer uprisings, largely because of their adversarial relationship with Confucian orthodoxy.

A discussion of Eternal Mother worship relies not only upon an understanding of orthodoxy in China, but also upon perceptions regarding the notion of orthodoxy in any society. Because of this, the Eternal Mother sects' reactions to Confucian orthodoxy can serve as a springboard for examining the relationship between ethical norms and deviations in any given society. This study reflects the pluralistic leanings of many current historians who seek to augment the grievously small amount of history written on the trials that common people have faced. This research aims to contribute to the body of work that has already added color to the incomplete picture that many modern-day students have of history.

LITERATURE REVIEW

The Boxer Movement and the White Lotus Uprisings

One of the familiar stories in Chinese history that demands a reexamination is the Boxer Uprising of 1900. One of the most famous international incidents in modern Chinese history, the Boxer Uprising has seized the imagination of students and historians alike for over 100 years. In the summer of 1900, a large group of rural Chinese citizens besieged the foreign legations quarter in Beijing for 55 days in an attempt to expel foreigners and the traces of their influence. These individuals were members of either all-male boxing associations or their female counterparts, the Red Lanterns, which were in turn part of a larger society known as Yihequan, or Righteous Harmony Fists.

Both the male Boxers and, to an even larger extent, the Red Lanterns, were widely believed by native Chinese to possess powers of invulnerability, and the ability to manipulate supernatural forces. These groups drew upon a large pantheon of deities adapted from popular theater, rural religion, and earlier sects to produce an eclectic collection of rituals and propaganda designed to rouse fellow Chinese. The Boxers and the Red Lanterns were mainly composed of men and women from the rural provinces of northern China who had fallen on hard times because of currency inflation, rising taxes, famines, floods, and the rise of banditry, which followed the weakening of the Qing imperial government.

The White Lotus Uprisings of the Ming-Qing era were actually a
group of independent, relatively autonomous uprisings in China against both the Ming and Qing dynasties. Some White Lotus sects are known to have venerated a deity known as *Wusheng lao mu* (roughly translated as Eternal Venerable Mother, but frequently rendered simply as Eternal Mother), a female goddess whose worshippers believed that catastrophic change was about to sweep the earth and that only the men and women who had proven their devotion to the Eternal Mother would be saved.

During the seventeenth, eighteenth, and early nineteenth centuries, a number of uprisings that were attributed to White Lotus sects took place in China. During the rebellions, White Lotus sects were branded as heterodox by the imperial government and persecuted accordingly. The White Lotus uprisings required so many resources to suppress that they are counted among the pivotal events in the decline of the last imperial dynasty (the Qing) because of the central government's inability to recover from the drain on its resources. After the dismal failure of the Boxer Movement, western observers were quick to point out similarities between the Boxers and the members of the White Lotus sects, but no satisfactory evidence for a relationship between the two groups was ever widely accepted.

Lacking credible evidence for an apparent personal or political connection between the two groups, this research considers the cultural relationship between them. This research seeks to establish a probable relationship between Eternal Mother worship during the Ming-Qing era and the Boxer Uprising by examining the legacy of Eternal Mother sects' influence on the development of an alternative form of social organization imbued with a great deal of religious, political, and spiritual meaning.

**Orthodoxy and Heterodoxy in Chinese History**

One of the most central debates about Eternal Mother Worship in modern scholarship is whether belief in *Wusheng lao mu* is heterodox or orthodox. The word *orthodox*, from the Greek *orthos* ('straight' or 'right') and *doxa* ('opinion'), is steeped in meaning. Technically, applies to any doctrine recognized as absolutely correct (to the exclusion of others), however it has its roots in religious disputes over the sanctity of certain beliefs. With this connotation of religiously-inspired absolutism, is tempting for many Sinologists to use the term to describe the influence of Confucianism in Chinese imperial history. Confucianism, as the official imperial philosophy throughout a great deal of Chinese history, has both seriously influenced and been influenced by the demands of the state. However, because of the complexities of Confucianism itself determining the 'right opinion' in order to properly define the perimeters of orthodoxy in China has proved to be a herculean task.
Discussions of political and religious history in China often assume the existence of an imperial orthodoxy heavily influenced by *Confucianism*, a complex philosophy primarily concerned with the development of moral perfection on both an individual and societal level. Confucianism's long history of court sponsorship, dating back to the Han Dynasty of 206 B.C.E. - 220 C.E., was regarded by some earlier scholars as the proof and origin of a state-sponsored orthodox philosophy that persisted - albeit in varying forms - throughout post-Han imperial China. Perceptions of Chinese orthodoxy have changed a great deal in the western mind over the last century, largely as a result of an increasing level of understanding among western scholars of Chinese religious and political institutions, as well as a greater sensitivity to the complexities and contradictions in Chinese society.

Western scholarship has recently shifted the emphasis applied to the problem of defining Chinese orthodoxy. Recent scholars have questioned the imperial government's ability to shape popular notions of orthodoxy and heterodoxy. According to this new line of thought, any individual may claim that his or her beliefs are absolutely correct, but such a claim would not bear the weight associated with orthodoxy unless it garnered popular support. With this idea in mind, a renewed investigation of Confucianism's influence on the population as a whole has produced a new way of viewing the philosophy that was once considered the territorial domain of an exclusive class of literati. Although each scholar has contributed his or her own voice to the discussion, Kwang-Ching Liu succinctly summarizes the shift in emphasis:

…this current trend of research [attempts] to explain the doctrine that not only was approved by the state but was common to several schools of Confucianism and to both elite and popular cultures as well. This doctrine… may be found in Confucian *li-chiao*, meaning 'ritual propriety and social ethics,' which can be more freely translated as 'institutionally and ritually based ethics' or as 'socioreligious ethics.' (*Liu, 1990, p. ix*).

Liu describes this renewed interest as "not based ipso facto on the pronouncements of government authorities but on what… historians have found to be the norms and counter norms in Chinese society." (*Liu, 1990, p. ix*). China is now more often seen as a religiously pluralistic culture that, despite differences in faith, recognized the importance of central socioreligious ethics. Although many of the central moral concerns of the guardians of orthodoxy can be traced back to Confucian philosophy, they have permeated even the most formerly-iconoclastic and rebellious
dominant religious trends. Thusly, Confucian orthodoxy serves as a
foundation for a body of ethical dictates reinforced by central political
authority, folk religion, social traditions, and family structures. In essence, it
is not for the state or the literati to determine orthodoxy: a belief only has the
weight of correctness if it is supported by the state, reinforced by the
wealthy and literate members of society, and accepted by the rest of the
population as not only correct, but sacrosanct.

A Brief Look at Confucian Cosmology Ethics and Exhortations

Over the more than 1000 years that have passed since Kong Fuzi’s
lived, the doctrines of this sage known to westerners by the latinized name
of 'Confucius' have undergone an almost constant process of revision in
understanding. The practical application of Confucianism in Chinese
history has been influenced by the changing interests of the imperial
government - the source of most Confucian scholars' income - as well as
the evolution of scholastic endeavors to understand the often obscure sage.
The most important aspects of Confucian thought are a belief in the
supremacy of Heaven (tian), the emperor as the Son of Heaven, the
importance of the Mandate of Heaven (tian ming), the efficacy of
hierarchical social organization, the importance of ritual (li), and the
paramount importance of filial piety (xiao).

Although Confucius was notoriously vague in response to questions
regarding the afterlife and the existence of spirits, Confucian philosophy is
based upon the existence of tian, or Heaven. Tian is portrayed as the
powerful, impersonal, motivating force behind the movement of the
cosmos that cannot be propitiated or influenced by suppliants; rather,
humans must seek to understand Heaven's will and simply obey it. It is only
by living in accordance with the harmonious path (or dao) of Heaven that
humans can fulfill their potential and achieve goodness.

The Chinese emperor, as the Son of Heaven, bore the responsibility
of interpreting the will of tian for the edification and guidance of his
subjects. Changes in power from one dynasty to another were justified
along the same lines, by declaring that a previous emperor had lost the tian
ming, or Mandate of Heaven. Although rebellions were not sanctioned in
Confucian thought, once an emperor had begun to act wantonly and abuse
his power, a new man with an understanding of the nature of tian could
legitimately claim the legacy of the throne. Because of the emperor's special
understanding of Heaven's will, each of his subordinates - that is, the entire
population of China - achieves his or her purpose through diligent
obedience to superiors, whose obligation to their subjects is to model
behavior for those in their care.
Moral education and the acquisition of ren (human-heartedness, benevolence) - the highest aim of Confucian ethics - is the product of li, or ritual. More than a simple collection of rites, the body of li is comprised of a complex universe of laws governing ethical behavior in almost every realm of human activity. Li reinforces the bonds between the individual and his surroundings; it buttresses the absolute hierarchical order that is an extension of the dao of tian. Attention to ritual, profound respect for one's superiors, and benevolent care for subordinates are all central to the final and perhaps most distinguishing characteristic of Confucianism: filial piety.

At its foundation, filial piety (xiao) is the abiding devotion felt for the sacrifices that one's parents have made in order to create, nourish, and support him or her. In addition, because members of the imperial bureaucracy acted as guardians of moral propriety and caretakers of the general population, filial piety extended to the state. Since the consolidation of Confucian principles for wide dissemination during the Han dynasty, filial piety was exemplified by the acknowledgement of the Three Bonds (sang-kang), described as "the subordination of subject to monarch, child to parents, and wife to husband" (Liu, 1990).

Thusly, the fixed and divine will of Heaven was understood by the emperor (who had obtained the tian ming), transmitted down through a strict hierarchy of subordinates, maintained and revered by an adherence to ritual, and venerated in the form of filial piety - as both a recognition of the importance of order and an emotional expression of one's indebtedness to superiors. Although these beliefs have their origins in Confucian philosophy, by the modern period they had been incorporated into every political and religious institution recognized as a legitimate part of Chinese society. Put simply, "the structure of orthodox Chinese epistemology amounts in the last analysis to the acceptance of culturally constructed order as the dominant value" (Sangren, 1987, p. 180). This is not to say that there was no resistance to Confucian mandates, but challenges to Confucian supremacy were not issued on as much of a political or public level as on a personal, active one. One of the most romantic and emotional acts of subversion in late imperial history was membership in a sect that worshipped the Eternal Mother, whose legacy influenced both the White Lotus and Boxer uprisings.

**Methodology**

This study primarily relies upon research and first-hand accounts published in the English language. All evidence of a relationship between the White Lotus and Boxer movements that was found is presented, weighed to determine the likelihood of a similarity between the two
Eternal Mother Worship

In this research paper, the discussions on the emergence and development of Eternal Mother worship are based primarily upon Shek and Noguchi's essay on the topic in their 2004 volume, *Heterodoxy in Late Imperial China*. Eternal Mother worship can be said to have begun with the writings of the soldier-turned religious writer Luo Qing (ca. 1443 - 1527), the author of *Wubu liuce* (literally "Five books in six volumes") - a compilation of works first published in 1509. Although much of the *Wubu liuce* can be traced back to other religions, it was responsible for the creation of an entirely new deity in China: the Eternal Mother. In *Wubu liuce*, Luo Qing sometimes refers to the emptiness that proceeded to creation as 'the Mother,' an impersonal but creative force that is not only responsible for the beginning of life, but is also the destination after personal enlightenment. An excerpt from one of Luo Qing's five books - the *Poxie xiangzhen yaoshi juan* [The text on the key to refuting heresy and revealing the truth] - serves to illustrate how Luo Qing's writings, although they never suggest the existence of a personable deity, could have given rise to the Eternal Mother myth:

Wuji ("limitless supreme" or "ultimate being") gives birth to Heaven and Earth, regulates them and provides for the human race.

The people of the Earth are the poor children: you have been admonished to return home, yet you lack faith.

Wuji is our original forebear, Wuji the elder is thinking of her/his descendants.

The people of the Earth are the poor children; they have experienced numerous kalpas and are lost, failing to recognize their parents...

With faith, the poor children can return home, and occupy an exalted position in this vast universe.

There will be boundless joy; yet you are not returning. Instead you go through endless samsara in the sea of suffering.

With faith, the poor children can return home and fulfill the vow of the elder.

(Shek, 1999, p. 367)

Luo's descriptive terms incited the imagination of the anonymous author of *Huangji jindan jidian zhengxin guizhen huanshiang baojuan* (referred to as the *Julian baojuan* for the duration of this discussion), who conjured up "a vivid, emotive, and homey picture of a mother who tearfully awaits the
reunion with her estranged children" in the place of Luo Qing's impersonal prima causa (Shek & Noguchi, 2004, p. 248). In addition to a moving personification of the 'Mother' force itself, the Julian baojuan is responsible for the consolidation of an identifiable Eternal Mother mythology.

The Eternal Mother Myth

Beginning with the Julian baojuan, the Eternal Mother was portrayed in religious texts and popular accounts as the creator of the universe and supreme ruler of the cosmos. Even the most powerful and well-known gods are forced to execute her commands. As the creator of the human race, Wusheng lao mu has an emotional bond with her children, which only causes her greater distress when humans forget their origins. Left to their own devices on earth, and distracted by material pursuits, humans had lost touch with their creator and forgotten any recollection of their blissful primordial home by the side of the Eternal Mother. Much like the Buddhist insistence that one can only escape rebirth after releasing all trappings of a connection with the world, followers of the Eternal Mother claimed that humans had become too concerned with earthly pursuits to rejoin the Wusheng lao mu in heaven.

In an effort to remind her children of their divine origins and allow them to return to the company of their loving progenitor, the Eternal Mother decided to initiate three kalpas: great cycles of history. Each kalpa lasts hundreds of thousands of years and operates according to a cyclical nature. Because of the inherently corrupt nature of earthly norms and structures, each kalpa was marked by deity's attempt to deliver the Eternal Mother's message to come home. If humans were open to her calls, they were entitled to a place in her heaven after death and rescued from the pain of reincarnation (samsara). Towards the end of each kalpa, the moral decay of the human world would continue violating the natural order until moral misdirection finally threatened a final end to the possibility for communication between the Eternal Mother and her children. In such periods, signs of impending doom and decay would emerge before an apocalyptic succession of catastrophes destroyed the corrupt worldly order.

Sixteenth-century texts generally acknowledged that the first two of three kaplas had already taken place, and that humans were living in the last great age of history. Because of this belief, Eternal Mother sects may be described as eschatological, which Shek defines as displaying "an acute, burning vision of the imminent and complete dissolution of the corrupt, existing world and its replacement by a utopian, alternative order [about which] knowledge [was] shared by only a religious electi whose faith and action will guarantee their exclusive survival of this cosmic event" (Shek &
Noguchi, 2004, p. 263). Participation in the violence that was said to accompany kalpic change was seen as a way to earn one's place in heaven. Although *Wusheng lao mu* worshippers disdained material pursuits in theory, they were not entirely isolated from their surrounding communities, so a number of intermediary protocols were necessary to negotiate existence on earth. The nature of Eternal Mother worship is inherently concerned with the supramundane, but many Eternal Mother ethical mandates seem to have been formed in reaction to Confucian orthodoxy, rather than without regard for it.

The Challenge of Eternal Mother Beliefs to Confucian Orthodoxy

Although a great deal of religious pluralism existed in late imperial China, belief in the Eternal Mother directly challenged the supremacy of Heaven (*tian*) (Liu, 2004). *Wusheng lao mu* and *tian* were each considered by their respective supporters to govern the passage of time, shape the course of history, and determine the worthiness of human beings. In addition, each was credited as the creator of the universe and as the most powerful deity throughout time. Although this position would be considered heterodox by official religious figures, this claim to supremacy would not necessarily be viewed with such disdain by rural individuals who themselves worshipped a plethora of folk deities.

Another substantial challenge to state authority presented by Eternal Mother sects was their denial of the emperor's special role as the Son of Heaven. Because all humans were the children of *Wusheng lao mu*, every individual who heeded her call to return home was granted direct access to the Eternal Mother. Supplicants could solicit aid from the Eternal Mother on an individual basis, and because of the mother-child relationship between humans and the Eternal Mother, there was little need for intermediaries. The nature of this interaction absolutely precluded the intervention of the emperor as a qualified interpreter of the Eternal Mother's will. Because the relationship between the individual and the divine was a personal one, the state no longer had any claim to divine inspiration. In a similar vein, Eternal Mother worship infringed upon ritual territory long controlled by Confucians by denying the sanctity of tradition-bound rituals and giving each individual the power to contact *Wusheng lao mu* on his or her own terms.

On a more disturbing and recognizably heretical level, Eternal Mother worship contradicted the very foundation of Chinese orthodoxy: filial piety. Any challenge to the established ethical relationship guidelines posed a much greater threat to perceived notions of correctness than did challenges to the state alone. Eternal Mother worshippers, because of their belief in
the equality of all humans before the goddess, rejected the bonds that tied humans to each other in a hierarchical manner. Eternal Mother worshippers' rejection of xiao was not only strikingly unorthodox, but contrary to the very foundation of Confucian ethics. Anthropologist Stephen Sangren concisely summarizes the contrast between Chinese orthodoxy and the Eternal Mother worshippers' neglect of filial piety, stating that "structures of value that prize order and legitimate existing social institutions and authority define Chinese orthodoxies, both official and local. Conversely, it is the denial of order as an ultimate value that defines heterodoxies" (Sangren, 1987, p. 176). Although many popular religious traditions challenged the supremacy of the imperial cult in different ways, filial piety remained sacrosanct in Chinese orthodoxy - rejection of this cornerstone of Chinese ethical standards was heretical in the extreme, and a simultaneous threat to both established religious morals and the state.

RESULTS/FINDINGS

The following sections contain a comparison between the available evidence regarding the influence of Eternal Mother worship in both the White Lotus and Boxer Uprisings. The two movements are compared according to certain themes: female involvement, participation in the martial and healing arts, and organizational structures.

**Female Participation in the White Lotus and Boxer Uprisings**

Under the yoke of Confucian mandates regarding submission to superiors, women were confined by legal and moral boundaries to very narrow, confining roles. It is no wonder, then, that females searched for communities that offered alternative visions about ideal social structures and equality. According to Eternal Mother mythology, women were not only equal to men in heaven, but could also hold positions within sects endowed with power equivalent to their male counterparts (Naquin, 1976, and Overmyer, 1981).

Although it is difficult to reconstruct the exact organizational role of women in White Lotus sects "it was certainly true that in these sects a woman's role as wife, mother, or unmarried daughter did not restrict her participation, and as a fellow believer her sex was relegated to a secondary position." (Naquin 1976, p. 47 - 48). Indeed, in one of the earliest Eternal Mother sects at the Baoming temple - later known as the West Mahayana Sect - the abbess was regarded as an incarnation of the Eternal Mother herself, which was an unrivalled honor (Shek, 1999, p. 374). In the Qing imperial documents, at least three women from Hubei were recognized as
authoritative religious figures and five as leaders in combat during the rebellions (Liu, 2004). One woman in particular, Widow Qi (also known as Qi Lin, neè Wang) - the wife of a White Lotus sect leader who was executed in 1794 - was widely known for her reputation as a religious leader, and participated in battles with her sect until her death in 1798 when she jumped off of a cliff in lieu of surrender to imperial troops (Liu, 2004).

Involvement in a White Lotus sect not only empowered women by allowing them access to the higher echelons of organizational hierarchies, but also diminished the effects of the stigma attached to their gender. Because of this release from orthodox expectations associated with femininity, it may be argued that "in the popular sects women had a higher relative position than anywhere else in Chinese society" (Overmyer, 1981, p. 166). This possibility is exemplified by the career of Widow Qi, a woman who not only earned the respect of her students, but was powerful enough to lead them in battle against the state. The extent of female participation in rebellion against the state was so remarkable that one commander of government troops during the White Lotus Eight Trigrams sect uprising in 1813 - 1814, named Nayancheng, reported the following:

'With these bandits who practice a sect, it was in many instances the women who taught the men... The women are cunning and dangerous and this heterodoxy leads to rebellion.... Moreover, [in battle] our forces have so far killed more than one woman.' (as cited in Naquin, 1976, p. 42).

Stories of female involvement in the White Lotus Uprisings established a cultural precedent that was revived and reinvented by the Red Lanterns of the Boxer Uprising. The Red Lanterns, or Shining Red Lanterns, (Hongdengzhao) were required to be either premenstrual or menopausal, and were ideally, although not always, virgins. Accounts from witnesses of and participants in the Boxer Uprising credit the members of the Red Lanterns with being able to fly, magically set fire to objects, walk on water, loosen the screws from enemy artillery using telekinetic abilities, and many other feats of supernatural strength which were more fantastical than those attributed to their male counterparts (Chen, 1960). The scope of the powers of the Red Lanterns was attributed to the magical pollution associated with female (yin) sexuality. As noted by a contemporary observer in the periodical Yu nanrji, "although the magic of the Boxers is great, they still fear dirty things. The Red Lanterns are in fear of nothing [because they are already magically impure]" (as cited in Cohen, 1997). The Red Lanterns
earned a great degree of respect by not only attaining positions of power within sects, but by using their gender-based stigma as an asset against believers in the orthodox insistence upon the impurity of females.

Later accounts less inspired by the atmosphere of hysteria that accompanied the Boxer Uprising claim that the Red Lanterns gathered intelligence, transmitted news, gave first aid, carried provisions, prepared meals, fought, and burned churches in support of Boxer advances. (Cohen, 1997) Regardless of what functions the Red Lanterns performed or the extent of their supernatural powers, they played an important role in the shaping of contemporary and later perceptions of the Boxer Uprising.

The Use of Martial Arts and Healing in the White Lotus and Boxer Uprisings

One of the most important aspects of Confucian social ethics was respect for centralized, absolute authority (in the form of the Emperor, the Son of Heaven). Because sects that worshipped the Eternal Mother were already in clear violation of Confucian moral principles, however their beliefs alone did not constitute a threat to the established order: in the eyes of officials, the danger of any given sect instigating a rebellion was closely tied to its activities in times of peace. In this context, the widespread use of martial arts and magical healing in the recruitment of new members and the maintenance of sect participation posed a serious threat to traditional central authority.

A number of White Lotus sects and Boxer associations practiced martial arts, which were a poignant blend of physical and shamanic rituals (Naquin, 1976) These practices were designed not only to condition the body, but to cultivate the spiritual self in order to accomplish feats of magic and/or make one fit for possession by a spirit to aid in battle. Even for those uninterested in personal salvation or philosophical epiphanies relating to the true nature of the universe, sect membership could be appealing, based on the mere prospect of acquiring skills that could both empower and protect practitioners.

In addition to the appeal of the martial arts, many Chinese were first introduced to Eternal Mother sects through healers (Naquin, 1985 and Overmyer, 1981). Although magical healing rituals were not uncommon in late imperial China, any healer who could successfully repair a patient's condition was often able to encourage the patient's belief in the healer's patron deity. However, when healers encouraged their patients to join Eternal Mother sects, they encouraged participation in a belief system opposed to all recognized moral norms. Healers had such a strong influence on their patients that in some cases they were able to found entire sects. Examples include: Yang Ji (d. 1774) of the Primordial Chaos tradition.
of Eternal Mother worship (Gaustad 2000, p.13) and Wang Lun, the founder of the Purified Water sect, whose followers rebelled in 1774 (Naquin, 1981).

Martial arts and healing were popular recruitment tools during both rebellions and were a perfect fit for the eschatological claims of Eternal Mother worship. The practice of martial arts and the provision of medical care for sect members were not only practical benefits, but distinctive ways to separate worshippers from the rest of society. The appeal of these practices suggests a desire among rural Chinese to exercise a modicum of control over their lives, which were frequently subjected to the vicissitudes of the market, the whims of officials, and the forces of nature.

**Organization in White Lotus and Boxer Sects**

In both White Lotus and Boxer organizations, internal sect hierarchies overruled conventional relationships, as evinced by the possibility for women to hold positions of power over male sect members. White Lotus and Boxer organization also challenged established ethics and authority by subverting traditional hierarchies and challenging imperial authority. Members of these groups ignored popular rituals designed to reinforce standard social organization, opting instead to design and participate in practices that buttressed sect claims of separation from non-believers.

The discussion about sect organization begins with initiation. Initiation rituals and qualifications varied widely from group to group. Many White Lotus sects emphasized the individual practitioner's ability to cultivate religious purity through the recitation of simple, chants ranging from common moral themes to cryptic martial invocations. New members were sometimes also taught simple rituals, martial arts, and breathing exercises designed to increase the effectiveness of their meditation, and make practitioners healthier both physically and spiritually (Naquin, 1985).

Initiations were also often followed by the practice of 'registering one's name' or 'verifying the contracts. The practice meant that the new member's name was recorded in an official-looking ledger or on a passport-like document that guaranteed the initiate's entrance into paradise with the Eternal Mother. This ritual was clearly an imitation of the bureaucracy surrounding sanctioned political institutions (Shek, 1999). Some sects also would burn a yellow piece of paper upon which a new member's name was written, a practice known as 'submitting the immortality formula' and roughly analogous to the memorial system employed in the imperial bureaucracy (Liu, 2004). After recruitment and initiation, apparently many members did not put a great deal of energy into sect activities in any
organized fashion - deciding either to continue their practices in private or discontinue participation for personal reasons. With the exception of boxing groups that gathered for practice regularly, most sect members seemed to have rarely met with their peers. In many cases, sect ties were maintained on a vertical level only - between teacher and student (Naquin, 1985).

The influence of any given teacher rarely extended across sects, although within groups ties between teachers and their initiates were usually very strong (Gaustad, 2000). Teacher-student relationships were often cemented by monetary tributes on behalf of members - a situation that many officials saw as deplorable not only because it usually meant a diversion of funds from more acceptable channels, but also because it hinted at the power of and cast doubt upon the intentions of sect leaders (Gaustad, 2000). The emphasis on vertical sect relationships, frequent lack of inter-group rituals or activities, tangled alliances and complicated hierarchies all contributed to the decentralized and volatile character of White Lotus sects in general.

These trends are clearly mirrored in the organization of Boxer groups. The Boxers were grouped according to their geographical location and associated with a particular practice ground that was open to anyone interested in participating (Esherick, 1987). Each group had its own hierarchy, with a sense of camaraderie being more significant than an individual teacher-pupil relationship, where even superiors' titles in Boxer organizations included the term 'Brother' (Esherick, 1987). Because the incantations required to attain invulnerability were simple to learn and easy to teach, the Boxers were, like White Lotus sects, very decentralized and quick to spread. The Boxers also staged demonstrations of their skills at public markets, like many White Lotus sects, and relied in large part on the appeal of the martial arts and the influence of its members upon their kin to expand their membership (Esherick, 1987).

LIMITATIONS

There are a number of limitations implicit in the nature of this research. Most daunting is the researcher's inability to read primary texts due to an unfamiliarity with the Chinese language. Other limitations affect this research include:

- the relative newness of the study of religion in China on a local level
- the dearth of both English and Chinese works on the subject
- the fact that most participants in the two rebellions left no personal records of events.
A more obvious limitation is that, each historical event develops in a context that is not reproducible and depends on the actions of individuals whose personal experiences are essentially impossible to communicate. Thankfully, this study does not aim to present a complete picture of the events it describes, but rather seeks to propose an additional narrative thread with which to enrich the tapestry of thought that is already available to the modern student.

CONCLUSION

Detractors of the theory that the White Lotus and Boxer Uprisings are closely connected often cite not only the lack of a clear political association between the two groups, but also the difference in relations with imperial authorities during the two events. On the surface, the relationship between White Lotus uprisings and the imperial dynasties were very different from the interaction between Boxer associations and the Qing. White Lotus sects were summarily dismissed as heterodox associations, and considered a direct threat to Confucian social structures. Participants in the White Lotus uprisings lacked any clear political program, short of the immediate destruction of earthly institutions to expedite and prepare for imminent kalpic change.

The Boxers, on the other hand, emerged first as voluntary protection associations that - depending on which accounts are believed - operated either as militias or mafia-type organizations in the late nineteenth century. Scholars who deny a pertinent link between the White Lotus and Boxer groups often cite the nationalistic slogan of the Boxers: "Support the Qing, destroy the foreign" (Esherick, 1987, p. 301), but the imperial court itself expressed anxiety about the Boxers' intentions to remain loyal, going so far as to outlaw "privately establishing associations and alliances" in 1898, during the spread of Righteous Harmony Fist organizations (Esherick, 1987, p. 273). Based upon these factors, many historians have concluded that the Boxers were both nationalistic and pro-Qing, but a closer examination of the Yihequan will reveal strong heterodox leanings that can be traced back to Eternal Mother beliefs.

The patently blasphemous denial of the paramount importance of filial piety, which ultimately led to the classification of Eternal Mother worship as heterodox, demonstrably affected the dynamics of social interactions between sect members and non-members. Indeed, the ties resulting from sect membership were often incongruent with ordinary relationships, and "thus represented the grounds for new and potentially unsettling alliances" (Naquin, 1985, p. 284). Although the targets of their eschatological outbursts were different, the White Lotus and Boxer
movements themselves were strikingly congruent. Lacking any vestige of a political program but driven by a fierce desire to create change, sect members threw in their lot with the deities who patronized their organizations and sought to wipe out corrupt institutions in hopes of the dawn of a new promise.

The Synthesis of Religious and Political Concerns in both the White Lotus and Boxer Uprisings

To the heterodox White Lotus and Boxer groups, rebellion was the climax of faith: a thrilling, provocative, and perhaps even desperate action believed to trigger the beginning of a new cycle of history. The defining feature of these rebels - their absolute faith in the existence of some alternative despite their inability to control their own social surroundings - made them not only unique, but bound to fail. Steven Sangren points out this paradox, saying: "Heterodox movements in China seem to have been unable to imagine a viable social application of their own heterodoxies. Short of world renunciation, some form of social order is inescapable" (Sangren, 1987, p. 180).

The uprisings of White Lotus and Boxer sects were not expressions of mere concern about the current administration, or inspired only by desperation brought on by natural catastrophes, but were rather the collective actions of Chinese who had discovered the logic behind the seemingly inane events of history: everything was wrong!

Seen in this light, the oft-recalled insistence of the Boxers that members of Yihequan were invulnerable to enemy artillery was not the result of ignorant peasant superstition or the abilities of sect leaders to fill their followers' heads with lies, but rather was part of a complete and all-encompassing rejection of the importance of worldly matters. So fierce was the desire among many rural Chinese for release from the hegemonic rule of authority that its rejection as the product of some insane millennia-long nightmare was not only a relief, but was one of the most sensible explanations possible.

Even assuming that a majority of members' reasons for joining White Lotus groups were entirely spiritual (which, realistically, could not be asserted), the matter of spiritual salvation necessarily became a political one in practical application. It was exactly this explosive combination of aims that made the White Lotus and Boxer Rebellions similarly heterodox and volatile expressions of rage against the status quo. Members of these groups modeled on the cultural legacy of Eternal Mother worship were so convinced that they were nearing the time of a final decision that violent rebellion was, in some cases, a natural extension of the beliefs of sect members. Not only was change necessary, but all of the threats in the world
were unable to deter sect members from their purpose.

The White Lotus and Boxer uprisings were not merely political: the complete absence of any proposed political alternatives is one of the characteristics that made the rebellions so remarkable. During both of these rebellions, the political and the religious realms, and thus analogously the public and the private spheres, collided, and the mandates of Eternal Mother worship demanded a confrontation on both levels. The combination of these two extremes culminated into the assertion that reality itself was not real, that the highest figures in society were the lowest, that the future was the end, and that time itself was about to change direction.

The participants in the White Lotus and Boxer Uprisings were part of the segments of society from which historians rarely hear, which makes their actions that much more difficult to understand. A closer understanding of the two rebellions is required for a greater appreciation for the history of early modern China, a country that is too often maligned as a stagnant giant mired in ancient traditions and, after finally being freed from the ennu of absolute despotism, controlled by the iron fist of Communist rule. An important lesson that may be learned from the two uprisings is that, even in a country known for its clear boundaries between its male and female, rural and urban, and poor and rich members of society, lines are occasionally blurred and barriers are sometimes crossed. The capacity of a group of individuals, no matter how oppressed or seemingly unable, to demand and initiate a change in even the most powerful echelons of society - indeed, the sheer audacity of it - is at once inspiring and terrifying: an important reminder to those of us who take the current world order for granted.
REFERENCES


