

**A Journal Of Research On  
African American Men**

***Perceptions Regarding Workplace Opportunity  
Models by African Immigrants and African  
Americans: An Exploratory SYMLOG Analysis***

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***Aggression in African American Males: A Review of  
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Forms of Behavior***

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Mario Azevedo  
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# CHALLENGE

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# PERCEPTIONS REGARDING WORKPLACE OPPORTUNITY MODELS BY AFRICAN IMMIGRANTS AND AFRICAN AMERICANS: AN EXPLORATORY SYMLOG ANALYSIS<sup>1</sup>

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## ABSTRACT

This paper examines the differing perceptions of Africans and African-Americans toward eight different approaches to workplace opportunities that were placed in a continuum within the established inclusion-exclusion construct. The opportunity structures that were placed in an ordered hierarchy were inclusion, diversity, mentorship, merit, equal employment opportunity, affirmative action, discrimination, and preferential treatment. The individual and organizational values that underlie these opportunity structures were based on research related to acceptance and support for values underlying fairness and equity (inclusion) and the rejection of values opposing fairness and equity (exclusion) in the U.S. value system.

<sup>1</sup>An earlier version of this paper was presented at the Academy of International Business Southwest Chapter Conference, San Diego, CA, March 14-17, 2007. Please direct correspondence to David L. Ford, Jr., D. L. Ford and Associates, 15150 Preston Road - Suite 300, Dallas, TX 75248 (dlfordjr@sbcglobal.net).

The perceptions of native-born African-Americans and African immigrants toward these eight opportunity structures were assessed using the SYMLOG rating system. Shifting demographics in the U.S. and several cultural and socio-political factors have led to Africans and African Americans increasingly viewing themselves as separate social identity groups. The findings of this exploratory study indicate greater differences in perception of legally mandated and socio-political opportunity approaches compared to legally prohibited and traditional opportunity structures. The results are discussed with respect to implications for public policy issues and directions for future research.

### INTRODUCTION

Fairness and equity values are deeply rooted in the U.S. value system (Deutsch 1975, 1985; Kleugel and Smith 1986; Leventhal 1980; Mor Barak 2005). However, these values do not always translate into workplace opportunities for all applicants and employees of organizations (Johnston and Packer 1987). A plethora of workplace opportunity structures (WOS) influence workplace success across the entire range of employment activities and issues -- such as recruitment, deployment, retention, development, upward mobility, and financial rewards. Whaley and Ford (2007) conducted a SYMLOG study that measured the differing perceptions of whites and African-Americans regarding four WOS: merit, mentorship, affirmative action, and workplace preferences that were based on factors unrelated to race and gender such as seniority, veteran status, and physical ability. They found that each opportunity structure had differing possibilities for success in the workplace and had different levels of support in the U.S. value system among the identity groups related to fairness and equity. Mor Barak (2005) indicated "inclusion" has strong support based on fairness and equity values while "exclusion" is usually rejected based on opposition to fairness and equity across cultures.

Workplace diversity programs (WDP) are one method used by organizations to make the workplace opportunities "fair for all." According to Mor Barak (2005), a review of the business, organization and human resource literature produced three types of diversity definitions: (a) narrow category-based (e.g., gender, race or ethnic differences; see Ford 1996; Ford and Whaley 2005), (b) broad category-based (e.g., including such variables as marital status), and (c) conceptual rule (e.g., variety of perspectives, perceptions and actions) that can be either mandated or voluntary. This WDP umbrella includes a large number of WOS ranging from compliance-oriented laws and regulations and equal employment opportunity (EEO) and affirmative action (AAP) programs on the one hand to more voluntary opportunity approaches such as merit and mentorship programs. While compliance oriented programs are mandated by either laws, executive or court

orders, organizations have begun to implement voluntary WDP based on the assumption that the primary beneficiaries of such programs (e.g., racial/ethnic minorities and women) will provide the organization with a competitive advantage (Cox and Blake 1991; Cox 1991; R. Thomas 1990).

Voluntary WDP have been expanded to include differences based social identity related to factors such as sexual orientation and management and personality style that are more inclusive, and all supposedly contribute to the norms, values, and overall culture of the organization. Mor Barak (2005) places these WDP in a hierarchical continuum related to an Inclusion-Exclusion construct. Other studies indicate the categories of WOS and WDP overlap (Thomas 1990; Thomas and Ely 1996). However, both WOS and WDP are affected by employees' perceptions of social justice that are related to implementation of the opportunity structures and the degree of reinforcement of relevant public policy.

Few studies exist that examine the perceptions of the immigrant population, and fewer yet examine the perceptions of the African immigrant population. This study contributes to the existing literature by comparing the perceptions of favorableness toward eight different opportunity structures by one under researched identity group, African immigrants, with the perceptions of African-Americans and whites and by comparing each opportunity structure to accepted effectiveness norms established by the SYMLOG research literature. This report proceeds in several sections. First, an overview of the pertinent research, federal laws, and public perception related to each of the eight WOS will be reviewed by placing them into four hierarchical categories ranging from exclusion to inclusion values: (1) legally prohibited opportunity structures, (2) legally mandated opportunity structures, (3) traditional opportunity structures, and (4) socio-political opportunity structures. Next, the impact of social justice concepts on the success of opportunity structures is discussed. Third, a brief overview of the SYMLOG measurement system is provided before the discussion of the research approach, research questions examined, and results. Lastly, implications of the findings from this exploratory study are discussed together with limitations and areas for further research.

## LITERATURE REVIEW: WORKPLACE OPPORTUNITY STRUCTURES

### Legally Prohibited Opportunity Structures

The discrimination and preferential treatment WOS were placed together in this category since they are viewed least favorably across cultures, by U.S. society as a whole, and are prohibited by most U.S. laws. That is, over the years, federal laws, executive orders and court cases based on the U.S. Constitution have made discrimination both illegal and inconsistent

with public policy. The 1964 Civil Rights Act prohibits discrimination in housing, education, employment, public accommodations and receipt of federal funds. Bennett- Alexander and Hartman (2004) argue that Title VII of Civil Rights Act of 1964 defines both discrimination and preferential treatment and is the most important piece of legislation that helped to shape employment and social policy in the U.S. There are five protected categories, namely, race, color, gender, national origin, and religion. Additionally, federal employment laws prohibit discrimination based on age, sex, pregnancy, childbirth, and disability. Some states add legal coverage based on privacy, sexual orientation, and harassment (Bennett-Alexander and Hartman 2004).

Some employment areas are not covered by law and some individuals, groups, and organizations are afforded "preferential treatment." For example, employees of organizations with less than fifteen employees, members of Communist organizations, employees of employers not engaged in interstate commerce, non-U.S. citizens employed outside the U.S., and employees of religious organizations hired to perform work connected to religious activities are exempt from Title VII. Businesses operated on or around Native American reservations are allowed to give preferential treatment to Native Americans (Bennett-Alexander and Hartman 2004). The general perception of preferential treatment is negative yet mixed when subjects are asked about preferential treatment for their own group, and discrimination is uniformly perceived as negative (Malos 2000).

### Legally Mandated Opportunity Structures

Equal employment opportunity (EEO) and affirmative action are placed in the same WOS category because they are required by laws and executive order and are perceived more favorably than the legally prohibited WOS. Equal Employment Opportunity laws underlie most U.S. employment laws and these laws are generally supported because they are perceived to not favor any demographic group and include most demographic groups (Bennett-Alexander and Hartman 2004). However, California and several other states have begun to make state and local affirmative action illegal, and they have experimented with other criteria to address under-representation of legally protected groups.

Affirmative action programs have become the most divisive and hotly debated of any opportunity structure primarily because many oppose such programs and believe they violate norms of procedural fairness and meritocracy (Astin 1993; Kravitz 1995; Peterson 1994; Terpstra 1995; Tierney 1997). Opponents of such programs argue these violations occur because identity group characteristics such as race and gender are given preference in decisions about the allocation of opportunities over other job related cri-

teria such as qualifications and merit (Kossek and Zonia 1993). However, proponents of affirmative action measures argue that the idea that opportunities can and should be distributed according to strictly neutral, task-defined, criteria of merit is a myth and only serves to reinforce and obscure continuing privilege for the already privileged applicants (Kerchis and Young 1995).

### **Traditional Opportunity Structures**

Mentorship and merit are included in the same WOS because they are the most popular traditional opportunity structures used by employers today. Nair (2005) defines mentorship and argues that formal systems of mentorship are designed by organizations to have more senior and experienced employees help less experienced employees through gaps in their knowledge about formal items such as company goals and policies and informal items such as organizational culture. Much of the mentoring literature admonishes career-minded individuals to "get themselves a mentor" in order to get ahead in their careers and in their organizations (cf. Kram 1985; D. Thomas 1990, 1993; Fagenson 1989). Little opposition, if any, is voiced if someone gets ahead based on having connections and on whom they know -- which is the case in mentoring relationships. Additionally, few objections are raised concerning other non-merit-based practices in organizations such as the application of seniority and/or legacy preferences in the allocation of opportunities, which themselves represent "special" forms of preferential treatment. Neither seniority nor legacy has as a first consideration the *performance* of the applicant, which would be the case if *merit* were the primary consideration.

Meritocracy, according to Kleugel and Smith (1986), means that people should succeed in life through ability and hard work, not on who they are or whom they know. Whaley and Ford (2007) reported that merit and mentorship WOS either overlapped or were perceived similarly by black and white respondents. In addition, mentorship was viewed more favorably than merit by both social identity groups. Further, this study indicated merit and mentorship WOS were viewed more favorably, compared to legally mandated and legally prohibited WOS, by both whites and African-Americans.

### **Socio-political Opportunity Structures**

Diversity and Inclusion are included in the same WOS category because they are linked together across many studies and are viewed more favorably than any other category (cf. Kravitz et al 1997; Malos 2000). Harvey and Allard (2005) reported that the most commonly used methods to define diversity are through demographic and psychographic variables. However, other researchers such as Cox and Beale (1997) define diversity as being



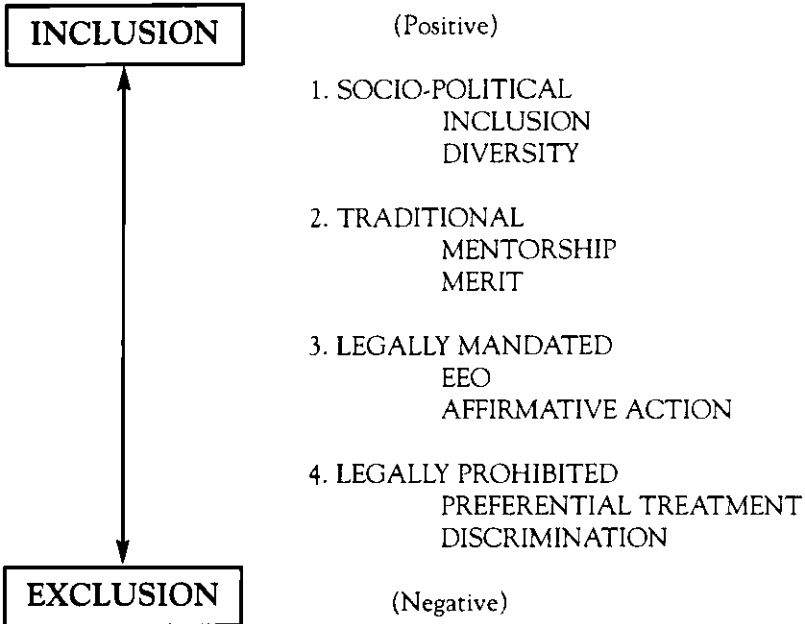
inclusive, by stating that it encompasses "a mix of people in one social system who have distinctly different socially relevant group affiliations" (p. 1). Thus, this latter approach goes beyond the legally protected groups and multi-cultural identity and includes differences based on socio-economic characteristics, personality, and management style.

Miller and Katz (1995, 2002) advocate the development of high performing, inclusive organizations that utilize diversity as a source of added value – a resource critical to an organization's success. Inclusive organizations "seek out the opinions, needs, and contributions of others, are authentically interested in other racial and cultural groups, anticipate the needs of different groups of employees, and establish progressive policies and procedures to meet those needs" (Williams 2001, p. 182). Mor Barak (2005) suggests that diversity is defined differently across cultures and countries; however, diversity and inclusion are correlated but perceptions differ by demographic group, most notably, white males, white females and minorities.

### **Favorableness of Opportunity Structures**

A review of the literature indicates several continuum models were based on an Inclusion-Exclusion construct (Cho and Mor Barak 2004; Mor Barak, Findler and Wind 2003; Mor Barak and Cherin 1998). Social Identity Theory is often applied to diversity matters. Tajfel and Turner (1979 1986) indicated the central idea of social identity theory is that people desire to be in groups with positive identities (Inclusion) and reject those they perceive as different (Exclusion). Inclusion-Exclusion has been linked to job opportunities and career advancement in work organizations (Morrison and Von Glinow 1990; O'Leary and Ickovics 1992). Mor Barak's (2005) assessment instruments for measuring inclusion – exclusion perceptions and identity perceptions have been shown to be related to organization outcomes such as retention, job satisfaction, job performance and commitment as well as individual perceptions such as lower stress, more fairness and social support. Although diversity groupings vary from one country and culture to another, the common factor that transcends nation boundaries is social exclusion in the workplace (Mor Barak, Findler and Wind 2001). The Perception Continuum Model of Opportunity Structures, ordered from Inclusion to Exclusion, was developed for the present study and is shown in Figure 1.

Figure 1  
CONTINUUM MODEL OF OPPORTUNITY STRUCTURES  
(Based on Literature Review) \*



\*Note: The literature supports the continuum model of inclusion concepts. However, different identity groups within the U.S. public view the meaning and order of these concepts differently.

The literature supports the notion of an ordered hierarchy of items within the Inclusion-Exclusion construct. Figure 1 suggests the eight opportunity structures enjoy differing levels of support within the Inclusion-Exclusion model. According to Mor Barak (2005), discrimination and preferential treatment is on one end on their Diversity Perception Scale while diversity and inclusion is on the other end and mentorship is in the middle. Harvey and Allard (2005) report the major diversity approaches can be divided into three categories: affirmative action, valuing diversity, and diversity management, and they contend that affirmative action is perceived less favorably and is less effective than the other two voluntary approaches. Proponents of economic marketplace approaches to workplace diversity such as merit and voluntary socio-political approaches such as inclusion alike, argue these

approaches are more favorably perceived than either legally mandated or legally prohibited opportunity structures (cf. Malos 2000). Therefore, research findings support the position placement of the legally prohibited and legally mandated opportunity structures in the Continuum model in Figure 1.

The Perceived Favorableness Continuum of Opportunity Structures Model shown in Figure 1 suggests that the most favorable perceptions of opportunity structures among U.S. citizens in general are the two socio-political constructs, diversity and inclusion, and the least favorable perceptions are the two legally prohibited constructs, preferential treatment and discrimination. The model indicates traditional opportunity structures are perceived more favorably than the legally mandated opportunity structures. Nair (2005) suggests that both merit and mentorship assist modern organizations to build "human capital" as a competitive advantage through the efficient use of all available resources. Ford and Whaley's (2005) SYMLOG-based study reported results that indicated that mentorship and legacy opportunity structures were closer to the effectiveness norm than merit and affirmative action, respectively, for both pro and anti-affirmative action respondents. Overall, the literature supports this continuum model of inclusion concepts.

### **SYMLOG System Overview**

Before describing the research methodology for the study, we provide a brief overview of the SYMLOG rating system that was used. SYMLOG research draws on "field theory" in which values, behaviors, and other factors affect each other in the social- psychological field. Several factors in the social-psychological field reinforce each other to provide a "unified" organizational experience while other factors are in opposition, producing "polarization." The name "SYMLOG" is an acronym for (1) Systematic, (2) Multiple Level, (3) Observation of Groups (Bales and Cohen 1979). The SYMLOG space can be represented in terms of three dimensions: *Values on Dominance vs. Submissiveness (U-D)*, *Values on Friendliness vs. Unfriendliness (P-N)*, and *Values on Acceptance vs. Non-acceptance of the Task Orientation of Authority (F-B)* (Bales 1970; Bales and Cohen 1979; Bales 1988; Bales and Koenigs 1992). The SYMLOG values questionnaire is composed of 26 items that each represents a different combination of these three dimensions. The rating items are shown in Figure 2.

Figure 2

## SYMLOG RESEARCH SUMMARY



## A. Values which CONTRIBUTE to effective teamwork:

- 2 UP Popularity and social success, being liked and admired
- 3 UPF Active teamwork toward common goals, organizational unity
- 4 UF Efficiency, strong impartial management
- 8 UB Having a good time, releasing tension, relaxing control
- 9 UPB Protecting less able members, providing help when needed
- 10 P Equality, democratic participation in decision making
- 11 PF Responsible idealism, collaborative work
- 16 B Change to new procedures, different values, creativity
- 17 PB Friendship, mutual pleasure, recreation
- 18 DP Trust in the goodness of others
- 19 DPF Dedication, faithfulness, loyalty to the organization
- 20 DF Obedience to the chain of command, complying with authority
- 21 DNF Self-sacrifice if necessary to reach organizational goals

## B. Values which are NECESSARY sometimes, but dangerous to teamwork

- 1 U Individual financial success, personal prominence and power
- 5 UNF Active reinforcement of authority, rules, and regulations
- 6 UN Tough-minded, self-oriented assertiveness
- 12 F Conservative, established, "correct" ways of doing things
- 13 NF Restraining individual desires for organizational goals

## C. Values which almost always INTERFERE with teamwork

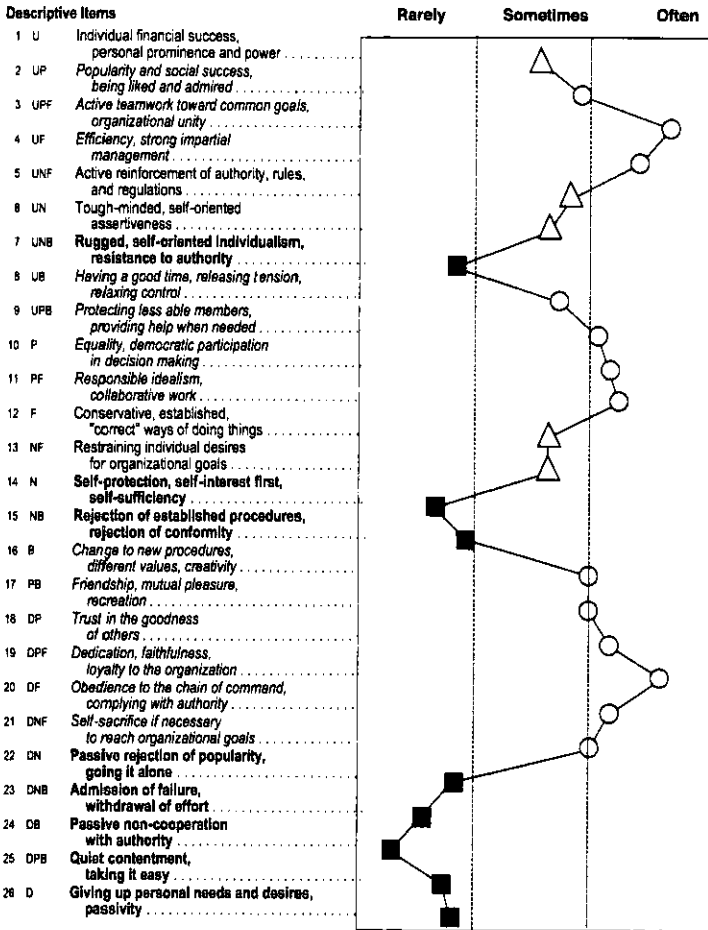
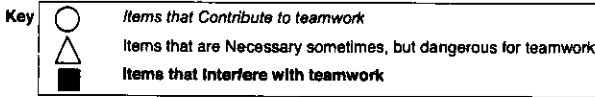
- 7 UNB Rugged, self-oriented individualism, resistance to authority
- 14 N Self-protection, self-interest first, self-sufficiency
- 15 NB Rejection of established procedures, rejection of conformity
- 22 DN Passive rejection of popularity, going it alone
- 23 DNB Admission of failure, withdrawal of effort
- 24 DB Passive non-cooperation with authority
- 25 DPB Quiet contentment, taking it easy
- 26 D Giving up personal needs and desires, passivity

SYMLOG rating data can be displayed and reported in a number of different formats. The Frequency Bargraph format is used in the present study. Research data collected by the SYMLOG consulting Group from hundreds of thousands of respondents across multiple organizational settings and cultural contexts summarizes research data collected from hundreds of thousands of respondents across multiple organizational settings and cultural contexts has been summarized in a reference image known as the *most effective profile (mep)* image, which is the location in SYMLOG space of the value position, derived from thousands of ratings of effective management, of effective leadership and of experiences with effective teams. *Mep* represents a balance between the three SYMLOG dimensions and was found to be optimal for the American business culture. In SYMLOG terms, the field location for the *mep* reference image is 2.7U 6.7P 6.4F (cf. Bales 1999; Kelly and Duran 1985). This location is often compared to the field location of images of people or concepts that are rated in SYMLOG studies through the mechanism of computing the Euclidean distance between *mep* and other images.

The frequency bargraph shows the average ratings received by an individual, a group, or a concept, for each of the 26 rating items. Figure 3 presents the Reference Bargraph for the Most Effective Profile (*mep*) image. The zigzag line in Figure 3 shows the "ideal" frequencies associated with each of the 26 SYMLOG values needed for effective organizational functioning and are represented by a bar extending along the continuum of "Rarely," "Sometimes," and "Often." Located next to the number for each rating item is a one to three letter code representing the combination of SYMLOG dimensions for that item. For example, item 1 is coded "U" for Upward, indicating that it is intended to measure only the Upward (i.e., Dominant) direction. Item 2 combines two directions -- "U" for Upward and "P" for Positive (i.e., Friendly). Item 3 combines three directions with the addition of "F" for Forward (i.e., accepting established authority). The remainder of the codes for all the rating items indicates various combinations of Upward or Downward, Positive or Negative, and Forward or Backward positions in the value field.

Figure 3

Figure 3  
SYMLOG Bargraph  
with Most Effective Profile (mep)



Source: © 1998 SYMLOG Consulting Group. Used with permission.

The SYMLOG system places different "weights" on each item for purposes of assessing effectiveness. In the context of teamwork, some values are seen to contribute to effective teamwork, some may be necessary sometimes but dangerous, and still others almost always interfere with teamwork. In Figure 3, the items in each category are printed in different fonts: *italic* for contribute, normal for necessary, and **bold** for interfere. As noted previously, the *mep* image location and values profile bargraph frequencies served as reference points against which the present study's results were compared.

## Methodology

### Sample

Fifty-two respondents volunteered to participate in the study. Each participant was asked to provide their race or ethnic background, gender, age, major in school, job title and years of work experience, citizenship, and country of origin. All respondents were a convenience sample of working professionals in the local area and students. The students were enrolled in either undergraduate or graduate management courses at a large public university in northern California. Twenty-one individuals identified themselves as either an African immigrant or African-American and thirty-one individuals identified themselves as white. Sixty percent of the African immigrants were from the eastern region Africa and the balance of the immigrant respondents were scattered across a number of countries but mostly located in the west African region of the continent. The average age of the undergraduates was 26 years, the average age of the graduate students was 35 years, and the average age of non-student working professionals was 42 years. The respondents were evenly distributed based on gender.

Our primary interest in this exploratory study is comparisons in perceptions of the African immigrants and African-American respondents. They are placed in the same racial category for purposes of reporting employment statistics to the U.S. government ( U.S. Federal Register 2005). However, the growth in the number of African immigrants and the differences in cultural experiences between people from African countries and African-Americans suggests different social identity groups and differences in perceptions toward U.S. employment practices such as WOS and WDP and associated public policies. The white identity group provides a different sample for use as a *baseline* group to which the immigrants' perceptions can also be compared.

### Data Collection

Each respondent was provided a handout that explained how to rate the eight opportunity structures on the SYMLOG rating form. The words, "perceptions" and "opportunity structures" were not used in the instructions, but

the instructions reinforced the study's focus on these ideas by using the words "impressions" and "concepts." Respondents were asked to rate the eight opportunity structures in terms of the frequencies with which the 26 SYMLOG values were reflected in the behavior of individuals, groups, and organizations when they used each of the eight approaches. There were three response categories: Rarely, Sometimes, and Often.

### Research Questions

Based on SYMLOG measurement system research and norms for the distribution of resources and opportunities in organizations, coupled with the differential support for or against certain opportunity structures by different subgroups of organizational members, several research questions were generated for examination in the study:

1. Are there differences in how the values underlying the eight opportunity concepts are perceived based on citizenship and in relation to the "optimum values frequencies (see Figure 3)?
2. Are there differences in how the eight opportunity concepts are perceived by African immigrants, African-Americans and whites relative to the location in SYMLOG space of their images with respect to:
  - (a) Euclidean distance from the *mep* norm,
  - (b) Forward vs backward location in SYMLOG space (task-authority orientation),
  - (c) Upward vs downward location in SYMLOG space (dominance orientation),
  - (d) positive vs. negative location in SYMLOG space (friendliness orientation)?

The outcomes for Research Question #1 were assessed by comparing the values frequencies for the eight opportunity concepts to the zigzag line in Figure 3 (*mep* profile). The outcomes for Research Question #2 were assessed in two steps. First, the final field locations of the eight opportunity concepts in SYMLOG space were determined and the proximity of the opportunity structure concept images to the "reference" SYMLOG image, *mep*, were derived by computing the Euclidean distance between the opportunity concept image and *mep*. The Euclidean distance between two images can be computed using the following formula (cf. Kelly and Duran 1985):

$$DIST_{ab} = \text{SQRT} ( ((UD)_a - (UD)_b )^2 + ((PN)_a - (PN)_b )^2 + ((FB)_a - (FB)_b )^2 )$$

where  $DIST_{ab}$  equals the Euclidean distance between Image A and Image B, and UD, PN, and FB equal the final field locations of the image on these SYMLOG dimensions. The "significance" of the Euclidean distance will be determined by comparing the resulting distances to estimates of significant Euclidean distances reported in the literature. For example, Kelly and Duran



(1985: 190), in a study that examined group cohesion within high and low performing groups, observed that an optimal level of cohesion was one in which the groups exhibited average interpersonal Euclidean distances ranging from 3.5 to 5.9 SYMLOG scale units. Groups with very high distance scores did not perform well. Applying this result to the present study, as a "rule of thumb," it could be assumed that images with distances greater than or equal to 6.0 Euclidean distance scale units have significantly different locations in SYMLOG space. Images with distances less than 6.0 scale units can be considered close enough in their locations to be similar in meaning and interpretation in a "general" sense (e.g., values, effectiveness and favorableness). After determining the proximity of the opportunity concepts to *mep*, the final field locations were further examined to determine which images were higher on the three values dimensions (P/N, F/B, U/D) of SYMLOG for African immigrants, whites and African-Americans.

## Results

The SYMLOG research reports assist researchers to interpret SYMLOG-based results visually, heuristically, and statistically. For example, the closer the final field location of any image or item measured to the ideal location (*mep*), the more effective the image is perceived to be in terms of teamwork, leadership, management, and organizational functioning. Table 1 presents the final field locations for the eight opportunity structures and two primary demographic subgroups of interest in the study. Since the *mep* can be represented on the SYMLOG bargraphs as the zig-zag line connecting the "optimal" frequencies of all twenty-six SYMLOG values items (see Figure 3), the farther an item frequency on a particular value is located from the zig-zag line, whether over or under the "optimal" frequency, the more significant is that item. A complete bar indicating the maximum frequency allowed for any SYMLOG value contains 33 spaces evenly divided between the three response frequencies of Rarely, Sometimes, and Often. When the average over all respondents on a particular value falls five or more spaces below or beyond the "optimal" frequency, this would represent a statistically significant difference at  $p < .05$  (Bales and Cohen 1979; Bales 1999).

Figures 2 and 3 both showed which SYMLOG values contribute to teamwork and which items did not contribute to teamwork. Therefore, there is a direct relationship between the values displayed in Figure 2 and the data provided in Table 1. Furthermore, the Euclidean distance is an accepted method to measure the distance of any image from the *mep* location in SYMLOG space. The closer the "distance" of an item to the *mep* location, the more that item is seen as favorable and effective. Although field diagram representations of the results are not provided here, we do provide in Table 2 the findings for Euclidean distances in an array that aligns

the eight WOS across African-Americans, African immigrants and whites in our study. Since the eight WOS were presented in Figure 1 in terms of a favorableness hierarchy, the smaller the Euclidean distance, the more favorable the image was perceived. The findings for each research question are discussed in turn below.

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Table 1

SYMLOG DIMENSION FINAL LOCATIONS

INCLUSION	African-American	African Immigrant
↑	1.INS 2.9U 6.6P 3.4F (1)	1.2U 1.5P 0.1F (5)*
	2.DIV 1.0U 4.8P 0.3B (2)	4.0U 5.2P 4.4F (2)
	3.MTS 3.3U 4.0P 2.8F (3)	1.5U 3.2P 3.2F (4)
	4.MRT 2.4U 0.7P 3.8F (6)	0.9U 0.1P 5.6F (6)
	5.EEO 2.9U 3.4P 1.2F (4)	2.9U 6.1P 3.8F (1)
	6.AAP 2.5U 2.4P 1.3F (5)	2.8U 4.4P 2.2F (3)
	7.PTP 0.4U 1.8N 1.6B (7)	0.6D 0.1N 0.9B (7)
↓	8.DIS 1.1U 6.0N 0.1F (8)	0.2D 3.4N 3.1B (8)
EXCLUSION		

Note: Numbers in parentheses represent rank ordering on Inclusion-Exclusion continuum based on SYMLOG final location on the PN Dimension.

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**Table 2**  
**Euclidean Distances between SYMLOG *mep* and Opportunity Structure Images by Racial/Ethnic Subgroup**

Racial/Ethnic Subgroup	Opportunity Structure Images							
	INS	DIV	MTS	MRT	EEO	AAP	PTP	DIS
White	4.08	3.78	1.96	4.14	4.17	8.37*	13.22*	14.95*
African American	3.01	7.17*	4.54	6.54*	6.16*	6.67*	11.90*	14.27*
African Immigrant	8.30*	2.82	4.89	6.89*	2.68	4.79	10.51*	4.16*

\* Euclidean distance represents a significant difference between location of indicated image and *mep* at  $p < .05$  level. Final location for *mep* used in computing Euclidean distances was 2.7U 6.7P 6.4F.

### Research Question 1

This research question was posed to examine what differences occurred, if any, in perceptions of the underlying values associated with the eight opportunity structures across the three identity groups in the study. These differences in perceptions regarding the eight opportunity structures were assessed by noting how close each group's averaged responses for the 26 rating values followed the ideal zigzag line on the SYMLOG bargraph. Since the primary focus of the research question was the comparison between African-American and African immigrants, the results are presented in a series of stacked bargraphs in Figures 4 – 7 for these two groups. These figures depict the group average frequency on each SYMLOG value for each identity group for the indicated opportunity structure concepts and provide a comparison between the two opportunities approaches depicted on the bargraph.

Figure 4 presents the results for the two legally mandated opportunity structures, EEO and AAP. Figure 5 presents the results for the two traditional opportunity structures, merit and mentorship. Figure 6 presents the results for the two socio-political opportunity structures, diversity, and inclusion.

Finally, Figure 7 presents the results for the two legally prohibited opportunity structures, preferential treatment, and discrimination.

Figure 4

Figure 4  
Identity Group Comparisons of Legally Mandated Opportunity Structures: EEO vs AAP  
American Immigrants (I), vs African Americans (A)

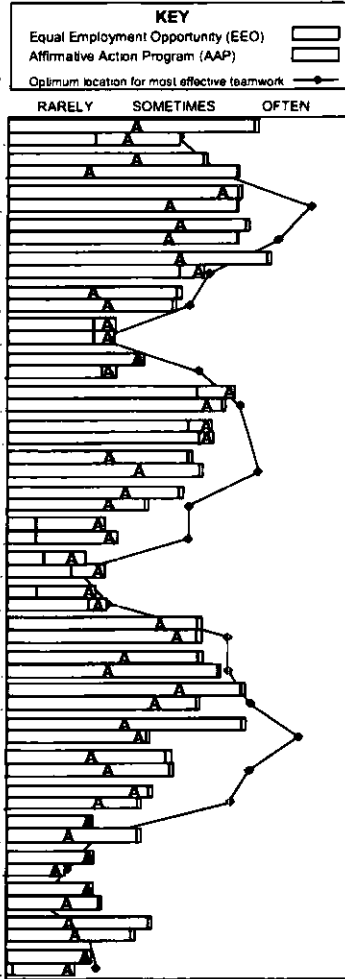


Figure 5

**Figure 5**  
**Identity Group Comparisons of Traditional**  
**Opportunity Structures: MRT vs MTS**  
**American Immigrants (I), vs African Americans (A)**

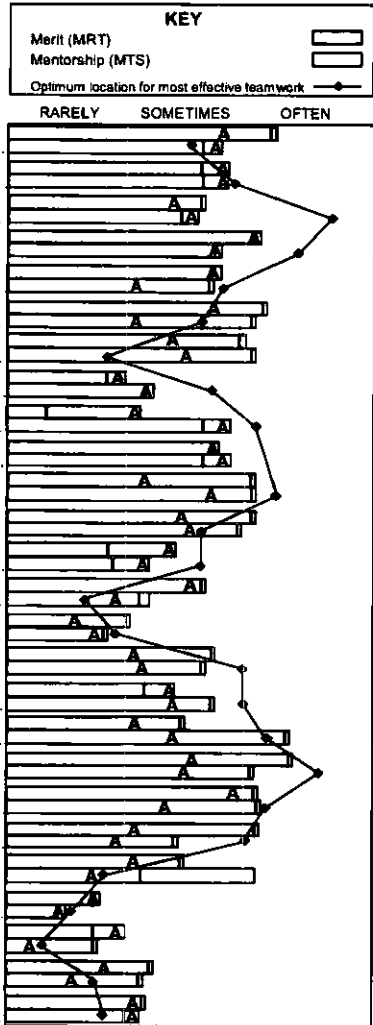


Figure 6

**Figure 6**  
**Identity Group Comparisons of Socio-Political Opportunity Structures: DIV vs INS**  
**American Immigrants (I), vs African Americans (A)**

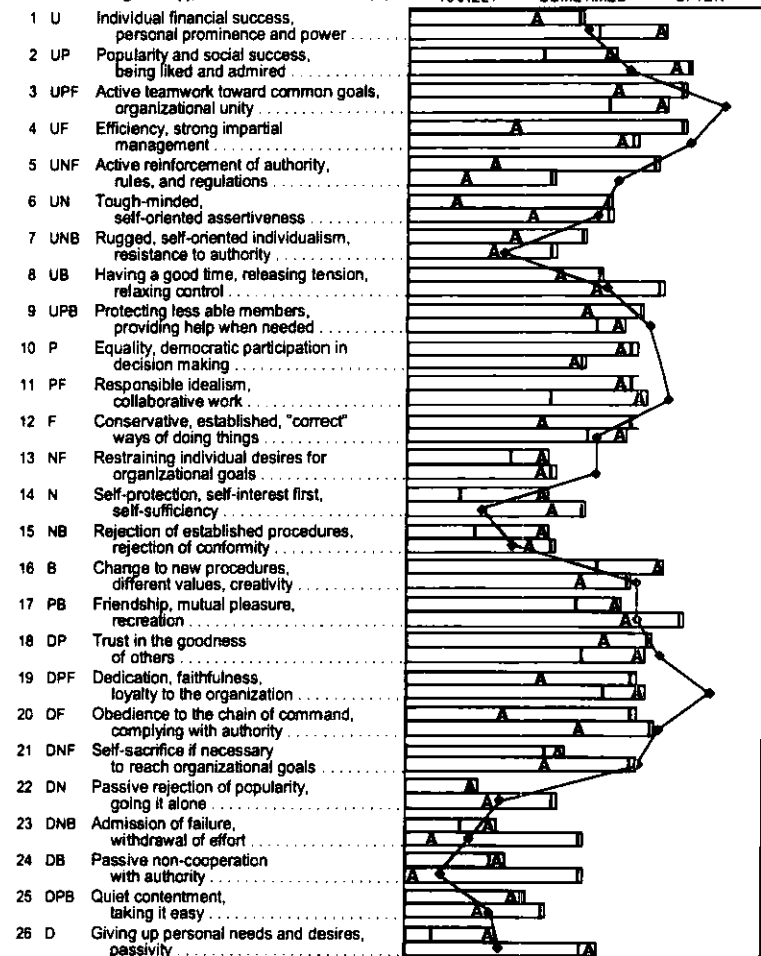


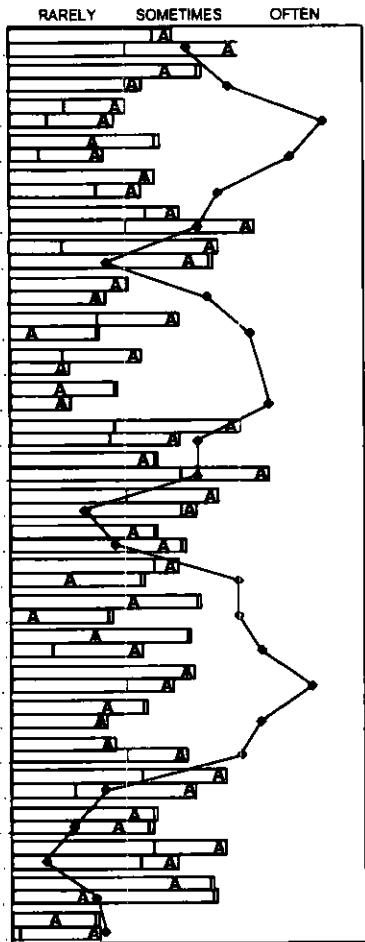
Figure 7

**Figure 7**  
**Identity Group Comparisons of Legally**  
**Prohibited Opportunity Structures: PTP vs DIS**  
**American Immigrants (I), vs African Americans (A)**

**KEY**

- Preferential Treatment (PTP)
- Discrimination (DIS)
- Optimum location for most effective teamwork

- 1 U Individual financial success, personal prominence and power . . . . .
- 2 UP Popularity and social success, being liked and admired . . . . .
- 3 UPF Active teamwork toward common goals, organizational unity . . . . .
- 4 UF Efficiency, strong impartial management . . . . .
- 5 UNF Active reinforcement of authority, rules, and regulations . . . . .
- 6 UN Tough-minded, self-oriented assertiveness . . . . .
- 7 UNB Rugged, self-oriented Individualism, resistance to authority . . . . .
- 8 UB Having a good time, releasing tension, relaxing control . . . . .
- 9 UPB Protecting less able members, providing help when needed . . . . .
- 10 P Equality, democratic participation in decision making . . . . .
- 11 PF Responsible idealism, collaborative work . . . . .
- 12 F Conservative, established, "correct" ways of doing things . . . . .
- 13 NF Restraining individual desires for organizational goals . . . . .
- 14 N Self-protection, self-interest first, self-sufficiency . . . . .
- 15 NB Rejection of established procedures, rejection of conformity . . . . .
- 16 B Change to new procedures, different values, creativity . . . . .
- 17 PB Friendship, mutual pleasure, recreation . . . . .
- 18 DP Trust in the goodness of others . . . . .
- 19 DPF Dedication, faithfulness, loyalty to the organization . . . . .
- 20 DF Obedience to the chain of command, complying with authority . . . . .
- 21 DNF Self-sacrifice if necessary to reach organizational goals . . . . .
- 22 DN Passive rejection of popularity, going it alone . . . . .
- 23 DNB Admission of failure, withdrawal of effort . . . . .
- 24 DB Passive non-cooperation with authority . . . . .
- 25 DPB Quiet contentment, taking it easy . . . . .
- 26 D Giving up personal needs and desires, passivity . . . . .



A visual inspection of Figures 4, 5, 6, and 7 shows that the ratings for the socio-political, traditional and legally mandated opportunity structures followed the zigzag (*mep*) line reasonably well in terms of closeness to the line. The ratings for legally prohibited opportunity structures followed the zigzag line the least. However, the pattern varies for African-Americans and African immigrant respondents in the study. In particular, the values perceived to underlie the legally mandated opportunity structures of EEO and Affirmative Action are closer to the *mep* norm for African immigrants than African-Americans. The differences were larger for EEO than AAP. A similar pattern emerged for about half of the values comparing merit and mentorship opportunity structures, whereby larger differences appeared to occur for the merit structure. Therefore, with respect to Research Question #1, we generally conclude that there are important differences in how the values underlying the different opportunity structure concepts were perceived by African-Americans and African immigrants.

### Research Question 2

The SYMLOG dimension that relates most directly to "favorableness" is the friendliness (P/N) dimension. A visual inspection of the P/N data in Table 1 for African-Americans and African immigrants supports the notion of a hierarchy implicit in Research Question #2. It should be noted that African-Americans and African immigrants to the U.S. view the meaning and order of these concepts quite differently. Both African-Americans and African immigrants view the legally prohibited opportunity structures as the least favorable and the ordering of the other items in the continuum are "mixed." Consistent with the U.S. population at large, African-Americans view the socio-political opportunity structures of diversity and inclusion as most favorable and African immigrants view them less favorably, especially inclusion. African immigrants view the legally mandated opportunity structures very favorably and African-Americans view them in the middle of the favorable to unfavorable continuum.

Table 2 displays a matrix of the Euclidean distances for whites, African-Americans, and African immigrants for the eight opportunity structures. Since the rule of thumb for significant differences from *mep* is 6.0 SYMLOG scale units, it is noted that the legally prohibited opportunity structures are significantly different from *mep* for all three demographic groups. On the other hand, the mentorship opportunity structure is close to *mep* for all three groups. The hierarchy of distances from *mep* for the other WOS is mixed and varies the most for African immigrants. It is interesting to note that with the exception of inclusion and mentorship, African-American respondents view all the other six WOS as significantly distant from the *mep*. Legally mandated WOS are close to the *mep* for African immigrants and significantly dis-



tant from the *mep* for African American respondents. African-American respondents view the inclusion opportunity structure as close to the *mep* and view diversity as significantly distant from the *mep*, while African immigrant respondents rated these two WOS in the reverse manner. Therefore, the continuum model is supported for whites and African-Americans and partially supported for African immigrants.

## Discussion

The present findings serve as an important source of validity for the use of SYMLOG theory in the context of WOS assessment. They lend support to the theoretical contention that individuals tend to polarize their social field into a group of "bad" and "good" images and this is reflected in the dispersion of the images in SYMLOG space for the different respondent groups. Using SYMLOG theory to study how respondents' racial/ethnic background and citizenship affect their perceptions of WOS has the advantage of studying perceptions of procedural justice approaches from the vantage point of a parsimonious theory that has been validated in the concept of studying images of organizational culture phenomena (see, e.g., Bachman 1988; Ford 1996; Whaley and Hare 1996). Further, the three SYMLOG dimensions have been shown to be consistent over time, culture, and situations (Polley, Hare, and Stone 1988; Bales and Isenberg 1980). This theoretical focus is important in view of the fact that psychometric research in this context has often been criticized of suffering from an atheoretical orientation that relies on a variety of dimensions that are empirically derived, through factor analytic procedures, from an assortment of scales (Nygren and Jones 1977; Herman 1986).

Several of the findings raise interesting questions for further contemplation. For example, what does it mean when the location of the AAP image is significantly distant from the *mep* image for U. S. citizen respondent groups in the present study, as well as the location of the merit image being significantly distant from *mep* for African-Americans in the present study? Does this signal a need for further education among underrepresented groups about the value of these two WOS in the organization's opportunity arsenal if these groups are ready to abandon affirmative action programs? Are these findings unique to California or does it represent a larger trend?

The study's findings also pointed out differences in perception of African immigrant and African-American respondents toward diversity programs vis-à-vis inclusion programs. African-Americans perceive diversity unfavorably while African immigrants perceive diversity favorably. African-Americans view legally mandated opportunity structures such as EEO and AAP unfavorably and African immigrants view them favorably. Perhaps this is consistent with many U.S. organizations changing the name of these

legally mandated programs from EEO and AAP to Diversity and the longer experience by African-Americans with these programs. Programs tend to mature and differentiate themselves over time and perhaps the recent African immigrants may have simply caught these programs at a more mature, differentiated and effective point in their life cycle. Adler (2002) indicates that most immigrants experience "culture shock" that makes them react favorably and then unfavorably to a new culture. A newspaper account by Isaac Olawale Albert (2002) in "Nigeria-Watchdog Goes Back to School" states, "it takes time to get to know someone of a different culture for diversity to work, otherwise culture shock happens, and prejudices are reinforced."

African immigrants perceived inclusion less favorably and significantly distant from the *mep*, while African-Americans viewed inclusion as close to the *mep*. Possibly this is merely a reflection of a different culture and time spent in the U.S. culture on the immigrants' part. As recent arrivals to the U.S., cultural differences for African immigrants may be clearer, and there has been less time for African immigrants than African-Americans to adapt to the U.S. country culture. Because mentorship programs have their advocates (cf. Thomas 1990, 1993), and because mentorship was also perceived close to *mep* in the present study, perhaps mentorship and inclusion opportunity structures represent the "common ground" upon which a more widely accepted public policy could be developed.

### Study Limitations

The sample size of 52 is quite modest for generalizability of the research results. Respondents were all located in northern California and most African immigrant respondents were from east Africa. The African immigrant sample focused on east Africa and this does not capture the variability in social identity and perceptions country by country and by region within the African continent.

The focus of this exploratory study is based entirely on perceptions. However, a broader examination of relationships among demographic variables, WOS, public policy outcomes, and organizational success and related concepts should be undertaken in future studies incorporating both perceptual and behavioral data. Behavioral data would facilitate the testing of predictions regarding public policy implementation as well as individual and organizational performance.

### Future Research Directions

The intent of this paper was to test the relationship between demographic variables and workplace opportunity structure perceptions and to address gaps in the research literature that would provide us and other diver-

sity scholars and researchers with useful ideas for developing a more comprehensive research framework encompassing relationships among WOS, organizational success, public policy outcomes, and social justice perceptions.

An important strength of the study was the use of the value based SYMLOG measurement system to compare a wider range (eight) of opportunity structures than had been presented in other comparison studies. While use of the SYMLOG measurement system for rating the eight opportunity structures was a strength, additional research is desirable to arrive at the most defensible categories of opportunity structures in terms of both their statistical and practical significance. Perhaps future respondents in similar studies could be asked to identify the opportunity structures used in their respective organizations and indicate which structures were most effective in terms of social justice concepts and organizational results.

Since the literature review suggested that different cultures, races, ethnic groups and genders all tend to have different perceptions about all the diversity-related variables discussed, the generalizability of the present results would be enhanced by expanding the subgroup analysis in future studies. For example, male-female differences in perceptions could be examined as well as additional racial and ethnic group categories. Age group categories should be examined to ascertain whether differences in perception exist based on income distribution, job status, acculturation, or generational differences. In addition to the demographic differences between African immigrants and African-Americans, the African immigrant group needs to be further delineated and distinctions need to be made between the experiences of African immigrants from different countries and the length of time an immigrant has lived in the U.S.

These future research directions would allow future scholars and practitioners alike to better link research, policy, and implementation (Skedsvold and Manu 1996) in order to impact in a positive manner the effectiveness of real organizations.

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## **Aggression in African American Males: A Review of Selected Literature on Environmental Influence<sub>s</sub>**

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### **ABSTRACT**

The aggressive African American male is a pervasive stereotype in America. This view of African American males has found support from those who claim a biological basis for this perceived propensity for aggression and violence. High arrest rates are used as an indicator for defining African American males as more aggressive and more violent than males from any other ethnic group. There are, however, environmental factors, such as the industrial shift of the 1980s, the dynamic blending of race, the legal system, the community and the individual, and the influence of family structure that do not receive serious consideration in the extant research. These factors examined from an ecological framework are revealed as possible predictors, confounding variables or direct or indirect causes of the disproportional representation of African Americans in crime statistics.

Early theories from researchers like Cesare Lombroso "argued that criminals were throw backs to an earlier and more primitive form of human being" (Haralambos and Holborn 1995: 387). Others like Sheldon and Eleanor Glueck, following in the same vein of physiological explanations for deviant behavior proposed the mesomorph body type as that which is most indicative of innate criminality and deviance. Mesomorphs, they explained, were "more active and aggressive . . . and are therefore more prone to committing crimes" (Haralambos and Holborn 1995: 387). These characteristics



are more likely to be used to describe African American males than any other race and or gender grouping. These early ideas are similar to the Jonathan Crane (1993) research, which aimed to substantiate the claim of intellectual inferiority of blacks to whites via genetic evidence. This research though has been challenged successfully on grounds of construct validity, analysis, significance of findings and on the operational definition of the key research term - intelligence.

"Blacks are 6 times more likely than whites to die by homicide, a crime that is overwhelmingly intra-racial in nature" (Sampson, Morenoff, and Raudenbush 2005). While these stark statistics speak for themselves, the confounding factors in the analysis have not been represented in much of the research. This paper focuses attention on violent and criminally violent behavior as representative of aggressive behavior. The paper will attempt to deal with the confounding variables of aggression in African American males from an ecological framework. Existing research suggests, and in many cases, asserts that there are serious environmental factors that are either predictors or confounding variables or causes (direct or indirect) of the disproportionate representation of African Americans in crime statistics.

Societal reality is defined by the dominant group, and in this case, the dominant group is white males. Thus, the relative exclusion of African American males, either by design or by consequence, has led to increased violence and crime which in turn is interpreted by society and the by product of that process is the stereotype that Black Males are genetically predisposed to aggression. A number of factors need to be examined before this rush to a genetic explanation for the perceived aggressive nature of Black Males.

The industrial shift and the resultant polarization of the labor market have led, invariably, to increased aggression and violence from the group most economically disenfranchised by this shift. Utilizing government agency statistics on crime and population of U.S. cities with a population of 100,000 or more in 1980, Parker (2004) sought to examine the effect of the industrialization shift and its polarizing effect on the labor market and Urban Violence as far as Blacks are concerned. Statistics from agencies such as the Federal Bureau of Investigation's Uniform Crime Report, the 1980 and 1990 Census of Population and the Bureau of Justice Statistics' Census of State Adult Correctional Facilities were used.

The research points to industrial restructuring as the main factor in the, ". . . removal of a manufacturing and production-based economy in urban areas, which had served as a catalyst in concentrating disadvantaged and polarizing labor markets since the 1970s" (Parker 2004: 619). The researcher's aim was to see whether there was any link between this industrial shift and the upsurge in urban crime. She found that there was a signif-

icant decline in service sector jobs for black males as well as black females, but the job prospects for white males increased significantly. "White males are benefiting from . . . highly skilled information-oriented service positions in urban cities" (Parker 2004: 628). This increased disadvantage for blacks corresponded to an increase in black gender-specific homicide. The loss of jobs was also felt by black women; however, there was no similar trend in homicide rates. The social expectation that women be less confrontational and use more passive means to release frustration and aggression may account for this disparity.

The laws represent the societal reality and substructure, thus black males (the economically and socially disenfranchised) represent a disproportionate segment of arrest statistics and of the prison population. This is primarily so because the American justice system purported to operate under the principle of impartiality, depends on ". . . an interdependent relationship between impartial laws and culturally influenced legal agents . . ." (Cureton 2000: 703). Thus, while there are social, economic, and cultural factors that lead to increased criminal activity and a greater concentration of said activity in certain areas and subsets of the population, the justice system does not factor this into legislation, arrests, or punishment.

Steven Cureton's research, "Justifiable Arrests or Discretionary Justice: Predictors of Racial Arrests Differentials," examines the claim that "Blacks face a higher probability of arrest than Whites because of police discretionary justice" (Cureton 2000: 704). Cureton also examines the fact that "police operations and services are concentrated in certain criminogenic, low-income, mostly non-white areas because of citizen requests, preference of victims . . ." (Cureton 2000: 705). The research used Crime Reports and census data from "municipalities with a population of 25,000 and over . . . The sample included 442 cities for 1980 and 435 cities for 1990" (Cureton 2000: 707). The data showed a few interesting facts that have direct relation to arrest differentials for blacks and whites.

Cureton's research yielded a racial bias in arrests made. He found that in cities where blacks were the minority and were governed by whites there were higher arrests rates for blacks particularly for murder, rape, and robbery for both years 1980 and 1990. There was no accounting for cities characterized by black governance. Police services were concentrated in those areas where blacks were in greater concentrations. This concentration represents a threat to the authority of the elite and results in a fear of crime. Thus, the concentration of blacks in an area governed by whites is likely to lead to discretionary justice based on this perceived challenge. The social threat phenomenon and benign hypothesis, suggests that segregation of minorities will actually lead to a decrease in minority arrests ". . . because segregation decreases any visibility of minorities and increases the chances of intra-

racial crimes. . ." (Cureton 2000: 706). The idea does not hold much credibility since the segregation of a disadvantaged group means that the police services become essentially centralized around that group in order to keep the group "corralled." Additionally the idea that this segregation of the minority group will result in greater intra-racial crimes perhaps at the expense of interracial crimes is also shaky. A segregated disadvantaged group will have to go outside of itself to take or earn the resources that it needs for survival. Lacking the skills necessary to earn these resources, the alternative is usually to take those resources, often resulting in criminal offences that now take on an interracial label.

Race relations have been fingered as a "critical social factor context for understanding violent behavior as a response to oppression" (Caldwell, Kohn-Wood, Schmeelk-Cone, and Chavous and Zimmerman 2004). The research is showing that as young Black males experience racial discrimination there is a greater likelihood of their involvement in violence, usually as a response or a defense to the experience. This correlation was even greater when race was a central feature to the individual's identity. "The Surgeon General's (USDHHS, 2001) recent report on youth violence concludes that risk factors do not operate in isolation and that they can be buffered by protective factors" (Hawkins, Herrenkohl, Farrington, Brewer, Catalano and Harachi 1998) thus making it essential for the examination of as many possible confounding factors as can be researched.

Caldwell et al (2004), quoting the aforementioned statistic asserts that "risk markers such as race and ethnicity are frequently used as risk factors for violence, yet being African American has no causal relationship with violence. On the other hand, living in environments with limited opportunities and little supports for success increases the risk for engaging in violent acts" (Hawkins et al., 2001). For a black American male, the transition into adulthood racial discrimination is one source of stress. This stress is most pronounced in those youths for whom race was less central to their identity. One researcher offered this Afro-centric explanation "the internalization of a definition of manhood based on a European American culture combined with the deleterious historical effects of slavery . . . an internalization of a strong sense of racial centrality and group affiliation may offset the stigmatization and marginalization that being African American . . . engenders" (Schiele 2000). Thus, it can be concluded that the continuation of violence in black males across the developmental span cannot be explained by a genetic predisposition but rather because of the social stresses that they must negotiate which in turn reinforce antisocial and often violent behavior.

The communities that produce the most violence are those that are depressed, and are described as being in a state of "concentrated disadvantage." There is a greater possibility of a black male living in this kind of

social circumstance than for a white or Mexican male. Social disadvantages as well as the psychological disadvantage of being part of a depressed and disadvantaged community are both possible confounds that must be included in the mix when one attempts to proffer explanation or to launch investigations into the possible origins of the disproportional rates of aggression in black males.

Social disadvantages, moral cynicism, and low collective efficacy are some factors that are characteristic of violent neighborhoods. According to Kirov and Peterson (2000) "the same social conditions are at the root of violent crime for all racial groups" (Krivo and Peterson 2000: 547). The authors of the article point to a common error to either structuring of genetic research into behavior or the interpretation of the results of such research. They argue that the views that hold a genetic basis or even a social basis for aggression often assume that the conditions that are at the root of violent crime are the same for all racial groups.

The article "The Structural Context of Homicide: Accounting for racial Differences in Process", is based on research conducted using "race-specific homicide rates for large U.S. cities with appreciable African American populations. The chosen cities had to meet the 100,000 total and 5,000 black population requirements. Of the 124 cities only "12 (10 percent) had levels of disadvantage for whites above 11. In sharp contrast, 81 percent of cities have levels of concentrated disadvantage for blacks above this point" (Kirov and Peterson 2000). As home ownership in blacks increased (*a decrease in concentrated disadvantage*), offending in blacks decreased. However, it is more the rule than the exception that the institutional and economic resources that could affect the level of concentrated disadvantage and thus the rate of offending in blacks are located further from blacks and much closer to whites.

The absence of ready employment and other legitimate means of self-sufficiency and the maintaining of one's family lead to eventual frustration and use of illegitimate means of meeting those needs. Violence therefore is incidental - one necessary by product. In the previously cited article, Karen Parker employs a Marxist approach to examining this factor in the consideration of causes of aggression in black males. Parker (2004) explains, "Deprivation, either relative or absolute, heightens feelings of anger and frustration that result in aggression." Going on to reference another research team, Parker (2004) asserts, "When an economically polarized environment is coupled with ascribed (racial) inequality, the potential for violence becomes more pronounced . . . deprivation could exacerbate frustration and contribute to the change in disaggregated homicide among blacks." Thus if a community is characterized by chronic unemployment, and little or no resources for self improvement, then one could expect high homicide and

crime rates.

The Sampson et al. (2005) article entitled "Social Anatomy of Racial and Ethnic Disparities in Violence" examines the idea that "racial and ethnic minority groups in the United States are differentially exposed to salient neighborhood conditions such as the geographic concentration of poverty and reduced informal community controls"(2005: 224). They note that "Latinos experience lower rates of violence overall than blacks besides being generally poorer" (2005:224). However, the research sheds light on the possible reason for this. Whites and Mexicans are more likely to live in neighborhoods that, while mixed, have an almost 85 percent non-black population. This statistic rings true since blacks are more likely than either of these ethnic groups is to "live in neighborhoods characterized by concentrated disadvantage, high legal/moral cynicism, and low collective efficacy" (2005: 227). The researchers close the article by suggesting that intervention strategies would possibly result in a reduction of the crime rate in those communities and among the black minority. They suggest policies such as the issuing of housing vouchers so the poor could secure housing in middle-class areas, as well as policies to increase home ownership in general.

The family is the basic unit of society, thus, from this assumption; any malfunction within society can be traced back to its basic unit, the family. It is crucial therefore, that in an exploration of the factors that contribute to violence in African American males that we examine the effect of family structure and parents. Social learning theory holds that children learn how to behave socially from their environment. With reference to aggression, the key element of modeling is at play as children learn conflict resolution skills. African American males, it is theorized, learn conflict resolution skills that allow them to maneuver within the reality of their neighborhood, but these skills are of little use outside of that environment. A study by David E. Jorgenson (1985) when using a structured questionnaire administered to students in a sociology class at "a regional university and a small college located in a larger city" (1985:111) found that when the method of conflict resolution used by parents was physically aggressive, males adopted it while females adopted more readily the verbally aggressive methods. This was so whether they were black or white males. The absence of, or the mother's non-use of discussion as a conflict resolution skill influenced greatly the adoption of physical aggression by either sex.

A study on school-related violence found that black males were more likely than any other racial and or gender grouping to have carried a weapon to school. The study by Susan C. Hill and Judy C. Drolet (1999) employed a "secondary analysis of school-related violence. YRBS data was conducted for the years 1993 and 1995" (1999: 265). The YRBS uses a nationally representative sample of 6th - 12th graders in the United States. The study also

found that black males were more likely to have been involved in a fight or other infraction. However, the article notes that overall, males were more likely regardless of ethnic grouping to have carried a weapon or be involved in a fight at school. This bears credence to the erstwhile issues examined in this paper – namely – that individuals from disadvantaged neighborhoods have a greater propensity for violence. However, the Hill and Drolet (1999) article point to the social expectation of greater assertiveness in males - an assertiveness that is often proven or conveyed through violence. Additionally, the disproportional representation of black males in these school-violence statistics points to the social learning that has been facilitated in the homes. These boys are taught the social skills that are necessary for survival in their disadvantaged neighborhoods. Without those skills, the neighborhood becomes even more dangerous and potentially lethal. However, when the black male attempts to use those skills in the schools that are characterized by the white culture, the actions are interpreted as aggressive and violent.

African American males, more than any other male racial population, are more likely to be from single parent families. While matriarchal families do not cause violence in these males, there is significant correlation between to cause concern. Many violent African American males are from single parent households or unwed households. This increases the risk for the presence of a number of other such as absence of discipline, economic and social deprivation, and insufficient positive exposure. Sampson et al. (2005) argue that family conditions play an important role as well. Although the female-headed household that many black males are born into is often identified as the cause of black male violence, one must be careful of such explanation. The female-headed household is yet another reflection of the economic situation, as the mother struggles to keep the family afloat in the absence of the economic contribution of the economically disenfranchised father.

Sampson et al. indicate though that “parent being married but not family configuration per se, is a salient factor in predicting both the lower probability of violence and a significant reduction in the black-white gap in violence” (Sampson et al. 2005: 231). The female-headed family, however, cannot be demonized as a link between it and violence rates can be ascertained. What is being seen though is that “being reared in married-parent households is the distinguishing factor for children” (Sampson et al. 2005: 231). The authors therefore call for “renewed attention to the labor market contexts that support stable marriages among the poor” (Sampson et al. 2005: 231).

The final part of Urie Bronfenbrenner's Ecological Systems Theory is the individual. The individual's self-concept influences his reality or at least his perception of reality. For the African American, violence is just one pos-

sible response to this perception. The stereotypes of African American males as aggressive and violent have persisted to the point that the victims of the stereotype have assumed their ascribed position. This is either a self-fulfilling prophecy or an internalization of negative labeling. In a study by Nesdale et al. (1975), the researchers found that person's perceptions of aggressors were formed not by the aggressor's intentions but rather by the perceptions of the other. While the study was of twenty-eight women, who read transcripts of interviews that described attractive or unattractive males who had engaged in aggression, the basic issue remains. Just as in this experimental situation, in real life situations people are judged subjectively and often erroneously based on heuristics such as stereotypes and prejudices.

Harrison and Esqueda (1998), in their research "Race Stereotypes and Perceptions about Males Involved in Interpersonal Violence" examine the less obvious effects of stereotyping. With "Two hundred and sixty volunteers from a large Midwestern university" the researchers randomly assigned volunteers to the following groups: "2 (male race: black or white) x 2 (type of provocation: aggressive provocation or no provocation) x 2 (type of escalation: aggressive escalation or no escalation) between-participant designs" (1998: 83). After interactions with the vignettes and the interviews, data on the participants revealed that perceptions of blacks were that they were violent and had been involved in prior criminal behavior. "National Crime Victimization Statistics [for 1987-1992] indicates that abusive black men are two times more likely to be arrested than abusive white men" (1998: 89). These findings shed light on the reaction of blacks to these perceptions of the law and whites in general. The situation becomes a self-fulfilling prophecy as black males respond aggressively to a group they believe (or know) perceive them as violent and aggressive.

The general attitude of African American males with regard to their neighborhood and themselves is grim. They see drugs, peer pressure, police not caring and poor educational opportunities as just a few of the barriers to self and community improvement. The response to these barriers is most often one that is reactionary and survivalist by nature. Most suggest a bleak outlook on the future and thus hold off on long-term hopes. A cross-sectional longitudinal study was carried out in a large Southeastern American city with data being gathered on 8th, 9th, and 10th graders, then later on 10th, 11th, and 12th graders using a combination of quantitative and qualitative instruments.

The researcher, Michael Cummingham (1999) attempted to investigate "African American adolescent males' perceptions of their community resources and constraints . . . focus on how perceptions of neighborhood characteristics were related to how adolescent males interpreted and integrated their social experiences . . . with their cognitive representations of self

in a social environment" (1999: 571). The data showed that adolescents had full understanding of their concentrated disadvantage. Pointing to drugs in the community, the subjects of the study identified it as one of the many factors that would have a very serious impact on their life chances. Factors such as unemployment, poor schools, gangs, and negative police attitudes were among other factors that they identified. The fact that these adolescents had already identified some of the main factors in their disadvantaged environment means that there is the possibility that a fatalistic approach to their life chances may have already developed or was developing. This fatalistic attitude and the perceived or real absence of control over one's life is what often lead to frustration. The frustration-aggression hypothesis argues that aggression and frustration are directly related one feeding into the other in a vicious cycle. Young black men it seems have become the perpetual victims in that cycle, impacted by social, economic, psychological, familial, community, and individual factors that all contribute to exacerbating the general male predisposition to be more aggressive than females. While the statistics speak clearly that African American males are disproportionately the perpetrators of violence, the statistics belie the confounding factors that speak much louder. The prevailing economic system does not afford African American males equal access to the legitimate means of survival, thus, illegitimate means of meeting those needs are utilized. More often than not, these methods lead to violence. The neighborhoods and family situations that these males come from lend themselves to ease of entry into violence and aggressive behavior. The skills that must be learnt to allow the male to navigate the depressed community are in large measure violent in nature, or at least described as violent by the dominant culture. Thus, any attempt to employ those same social skills to maneuvering within the wider society results in conflict. Eventually these social pressures are assimilated and accepted by the individual as his lot. Thus, the development of a fatalistic attitude is almost inevitable. The individual resigns to his "fate," as it were, and becomes the violent, angry black male that he has been repeatedly characterized as being.

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## Disparities in Small Business Credit Markets: A Survey

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### ABSTRACT

This paper reviews the literature on statistical disparities in the market for small business credit. The paper begins with a brief legal discussion of the case law on the use of credit discrimination in the factual predicate for a minority business procurement program. The next section provides an overview of the statistical analysis of disparities in loan denials and interest rates by race and gender in the National Survey of Small Business Finance (NSSBF) data. The final section outlines policies to remedy discrimination in credit markets.

### Lending Discrimination and the Factual Predicate for Affirmative Action Programs

One of the few instances of federal courts upholding race based affirmative action programs has been public procurement. More significantly, here is case law holding that lending discrimination can justify affirmative action procurement program. In *Adarand v. Slater*, the 10th Circuit federal court of appeals took "...judicial notice of the obvious causal connection between access to capital and ability to implement public works construction projects."<sup>1</sup> The Tenth Circuit went on to state, "Lending discrimination alone of course does not justify action in the construction market. However, the persistence of such discrimination . . . supports the assertion that the forma-

<sup>1</sup> *Adarand v. Slater*, 228 F.3d 1147, 1170 (10th Cir 2000).

tion, as well as utilization, of minority-owned construction enterprises has been impeded."<sup>2</sup> Similarly, the district court in *Northern Contracting v. Illinois* noted:

IDOT<sup>3</sup> also presented evidence that discrimination in the bonding, insurance, and financing markets erected barriers to DBE<sup>4</sup> formation and prosperity. Such discrimination inhibits the ability of DBEs to bid on prime contracts, thus allowing the discrimination to seep indirectly into the award of prime contracts, which are otherwise awarded on a race- and gender-neutral basis. This indirect discrimination is sufficient to establish a compelling governmental interest in a DBE program.<sup>5</sup>

After weighing the criticism by the plaintiff's expert, the district court concluded in *Builders Association*:

Out of the welter of statistics and other information, a strong basis in evidence emerged that African-American construction firms in the Chicago area are victims of discrimination in the credit market that Asian and Hispanic firms probably encounter some discrimination in that market and that women may possibly encounter some discrimination there.<sup>6</sup>

### Review of the Literature

There is a vast academic literature on discrimination in home mortgage lending (e.g., Munnell 1996). Evidence on discrimination in credit markets is more modest. However, analysis based on national databases and surveys does exist on disparity in small business lending. Most of the research has relied on surveys, data from the Characteristics of Business Owners (CBO), the National Survey of Small Business Finance (NSSBF), and Community Reinvestment Act (CRA) data.

There have been national and local surveys supporting the findings of discrimination in lending. An early study in Faith Ando (1988) found that only 61.7 percent of African American commercial loan applications were accepted as compared to 89.9 percent of commercial loan applications from whites. A 1983 U.S. Department of Commerce (1986) survey of 1,300 firms

<sup>2</sup> *Adarand v. Slater*, 228 F.3d 1147, 1170 (10th Cir 2000).

<sup>3</sup> Illinois Department of Transportation

<sup>4</sup> Disadvantaged Business Enterprise

<sup>5</sup> *Northern Contracting v. Illinois*, Mo 00 C 4515 (ND II 2005), at 47. See also *Builders Association of Greater Chicago v. City of Chicago*, 298 F.Supp.2d 725 (N.D. Ill. 2003) ("A higher interest rate may make it impossible to submit the lowest bid in this highly competitive industry, or, indeed, to survive").

<sup>6</sup> *Id.*

found that, after controlling for debt ratio, credit rating for businesses with sales in excess of \$500,000, education, industry, and experience, African American businesses had a 17 percent lower success rate of obtaining loans than whites did. A 1996 Denver survey (Colorado Center 1996) found that after controlling for sales, age of business, and net worth, denial rates were three times higher for African American firms than for non-minority firms. The survey was, however, of a small sample and did not control for credit-worthiness. In a NBER<sup>7</sup> paper Blanchflower, Levin, and Zimmerman (1993) found that African Americans were more likely to report that credit was a serious problem (31 percent) than non-minorities (13 percent).

A number of local disparity studies have asked questions in surveys about disparities in lending. These studies typically report substantial anecdotal evidence of problems in credit markets by minority business owners. The evidence here is mixed, but a number of studies have found differences in loan denial rates. For example, a recent study of Atlanta contracting found that over 60 percent of the respondents reporting loan denials in the sample were African American firms, although African American firms made up only 30.4 percent of respondents (Griffin & Strong 2006). Denial rates were also higher for African American respondents as a proportion of the number of respondents who had applied for a loan. However, these studies generally have not controlled for the creditworthiness of survey respondents.

### **Characteristics of Business Owners (CBO) Database**

In a series of papers, Timothy Bates has analyzed disparities in loans received by African American firms. In an article based on 1982 CBO data, Bates (1991) found that non-minority firms received larger loans on average than African American firms after controlling for firm characteristics. Grown and Bates (1992) found fewer loans going to construction firms in the CBO data. In a study using the 1987 CBO data, Bates (1997) found that banks lend more per dollar of equity to non-minority-owned firms than to similarly situated African American-owned firms. As would be expected, Bates found that firms that start with more capital tend to have higher survival rates. Bates (1997) found that survival rates for black start-ups matched white start-ups in the CBO data controlling for access to bank lending, but ignoring firm location.

### **National Survey of Small Business Finance (NSSBF)**

#### **Loan Denials**

The most detailed analysis of disparity in small business lending has used

<sup>7</sup> National Bureau of Economic Research

the NSSBF. Cavalluzo and Cavalluzo (1998) found that African American males were 13 percent less likely to secure loans than non-minority males in the 1988-89. Denial rates for African American-owned firms were 35 percent higher than for firms owned by non-minorities, controlling for credit risk characteristics. However, the sample of minority firms in the 1988-89 NSSBF was small.

This pattern continued in the 1993 NSSBF data, where Blanchflower, Levin, and Zimmerman (1998) found that after controlling for creditworthiness, African American firms were 28 percent more likely to have a loan denied than non-minority firms. In fact, the gap between African American and non-minority denial rates for small business loans was three hundred and fifty percent greater than the gap in home mortgage loans. Blanchflower et al. (1998) concluded that the "results suggest that even black owned firms with clean credit histories are at a significant disadvantage in getting their loans approved, holding constant other characteristics." Blanchflower et al. (1998) did find a smaller difference in loan denial rates between races for trade credit (from suppliers and credit card companies).

In a paper using the 1998 NSSBF data, Blanchflower, Levine, and Zimmerman (2003) found that African American-owned businesses were about twice as likely to be denied loans after controlling for creditworthiness and other factors. The 1998 NSSBF included Dunn and Bradstreet credit ratings as well as housing and non-housing personal net worth data\_ data that were not available in the 1989 and 1993 NSSBF.

Cavalluzo and Wolken (2002) found substantial unexplained differences in loan denial rates between minority and white-owned firms after controlling for credit characteristics and personal wealth variables. While personal wealth was associated with a lower probability of loan denial, they found large differences in denial rates across demographic groups remained after controlling for personal wealth.

### **Loan Applications**

There are mixed results on disparities in applicant behavior. In a study using the 1993 NSSBF data (which had a larger sample of minority firms), Cavalluzo et al (2002) found evidence of a "discouraged borrower effect"—that is, minority firms did not apply for loans because they assumed that they would be denied. Coleman (2002) also found that black and Hispanic-owned firms were significantly more likely to avoid applying for loans because they believed they would be denied. In their study of 1993 and 1998 NSSBF data, Blanchflower, Levine, and Zimmerman (2003) found African American-owned firms were less likely to apply for credit than firms owned by non-minorities were. On the other hand, Cohn and Coleman (2001), relying on the 1993 NSSBF, found that black-owned firms were no less like-

ly to apply for a loan than white-owned firms were.

In a more sophisticated analysis, Mitchell and Pearce (2005) estimated a model of loan denials jointly with a model of loan applications. They separated out banks from non-banks (finance companies, government agencies, factoring companies) and separated out relationship loans (line of credit loans) from transaction loans that require collateral and have less soft information. In this analysis, they found that Hispanics and African Americans were less preferred borrowers for all outstanding loans and all transaction loans. They did not find this to be the case for female or Asian owned firms. They found loan denial probabilities significantly higher for black owners than otherwise identified white males.

### Interest Rates

Blanchflower et al. (2003) also found differences in the interest rate charged to African American borrowers. Controlling for creditworthiness, African American borrowers were charged an average of one percentage point higher interest. Even African American firms with good credit were charged higher interest rates.

### Patterns of Financing

The Small Business Administration's Office of Advocacy (SBA 2003) used the 1998 NSSBF to study patterns of lending by race. The SBA found that Minority and Women Business Enterprises (MWBE) had a different pattern of financing as compared with all small business in general. The SBA could not determine whether the different sources of financing were due to the reduced availability of certain types of credit to MWBEs.

Mitchell and Pearce (2005) also found minorities were more likely to have transaction loans from non-banks and less likely to have bank loans of any kind. They found greater loan denial probabilities for blacks and Hispanics for transaction loans from banks and non-banks. They state, "While virtually all past research has likewise found evidence consistent with discriminatory lending practices against African American and Hispanic firms, our contribution is to hint that discrimination may be specific to particular segments of the loan market rather than general problem."<sup>8</sup> They did not find evidence that lenders require less preferred borrowers to exhibit superior owner or firm characteristics. In theory transaction loans should be more objective than relationship loans.

Blanchflower et al. suggest that if there was discrimination in small business lending this may be reflected in African American business owners' greater reliance on credit cards. In a subsequent regional study, Blanchflower

<sup>8</sup> K. Mitchell and D. Pearce (2005), at 46.

(2001) found that while African Americans were more likely to use credit cards, the differences were not statistically significant and there were no racial differences in credit card balances.

### Regional Analysis

Regional analysis from the NSSBF has been conducted for other local agencies using a methodology similar to Cavalluzzo and Blanchflower et al. A study of the NSSBF data for the NSSBF South Atlantic region, found that after controlling for creditworthiness, African American firms were 28 percent more likely than owned-owned firms to have their loan request denied (NERA 2001). The study also found that African American-owned firms with good credit history were charged a percentage point more in interest rates on small business loans. Similar findings were found for the southern region in other studies (Griffin and Strong 2006).

### Small Business Lending in Minority Neighborhoods

There have been other studies of disparities in small business lending by race of neighborhood, as opposed to be race of business owner, relying on CRA and Home Mortgage Disclosure Act (HMDA) data.

The *Greater Philadelphia Capital Access Report* (2000) found that only 1 percent of small business loan dollars went to neighborhoods that were 80 percent African American. Race remained a significant variable in small business lending after controlling for other neighborhood characteristics, such as income and industry mix. Similarly, Canner (1999) also found that minority tracts, after controlling for income, firm and residential population, industry, and regional location, receive fewer small business loans than non-minority tracts.

Daniel Immergluck has conducted a series of studies of small business lending by race of neighborhood using CRA data. In a study of Chicago, Immergluck (2003) found that predominately minority areas receive fewer small business loans after controlling for firm density, firm size, and industrial mix. In a study of Philadelphia using 1998 CRA data Immergluck (2002) found that after controlling for income, firm, and residential population, industry, firm size, and credit history, African American census tracts received far fewer loans than nonminority tracts.

Bostic and Lampani (1999) added economic characteristics of a firm owner' locale and geographic information, such as race of the neighborhood, to the NSSBF data and found that the race of a neighborhood negatively affects small business loan denial rates. In their study, the disparity in denial rates by race of neighborhood increased after the neighborhood income was included in their statistical analysis.

## Remedies

A number of state and local governments have addressed these lending disparities with lending programs. To date these lending programs, even when race conscious have not been subjected to legal challenge, as have the programs promoting minority business procurement utilization. Some of the principal lending programs have been the following:

- **Federal Programs.** The federal government has made efforts to make loans to minority businesses at least since the 1960s. The primary federal vehicle has been SBA lending programs, the 7(a) and 504 loan programs.
- **Loan Guarantees.** Loan guarantee programs typically provide guarantees of up to 90 percent of the principal on the loan. The loans often cover lines-of-credit for accounts receivables and inventory, working capital, and fixed asset purchases. Most loans are in the \$25,000 to \$150,000 range, with the largest loan to date seldom being beyond \$250,000. Loans below \$25,000 are the province of micro-lending programs
- **Contract Financing.** These programs provide loan guarantees and direct working capital and equipment loans to socially or economically disadvantaged businesses that have been awarded public contracts.
- **Collateral Enhancement.** These programs involve placing a collateral reserve account at a bank. The business is then required to secure financing from a lending institution, which may be conditioned on receipt of additional collateral supplied by the agency program, which is generally 25 percent of the loan amount.
- **Linked Deposit.** Agencies use linked deposit programs to subsidize lower rates for business by accepting a lower rate on their deposits with participating financial institutions. The benefit to lenders is that they have a new loan product resulting from public agency deposits at a reduced rate.

## Conclusions

Existing data confirms that there are large unexplained disparities in small business credit for African Americans and for African American neighborhoods. While there have been a number of policies introduced to address the problem a review of the more recent NSSBF data that recently arrived is needed to gauge the success of those efforts.

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## **Birth Control Behavior and Partner Notification of STI/HIV: Distinguishing Verbal and Non-Verbal forms of Behavior**

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### **ABSTRACT**

Differentiating between forms of behavior provides basis for enhanced policy and practice for health promotion and disease prevention through transmission control. Related behavior was used to predict STI/HIV partner notification in the Republic of Guinea among married women in polygynous and monogynous family marital structures.

Demographic and Health Survey data from *MeasureDHS* (Macro International) were analyzed using mixed methods analyses to develop constructs in the theoretical model. The relationships of Birth Control

Behavior, Family Marital Structure, Family Planning and STI/HIV Knowledge with Partner Notification of STI/HIV among women of child-bearing age were examined using logistic regression. Respondents were more likely to inform partners of their STI/HIV status if they had been discussing family planning, and/or if they had prior knowledge of STI/HIV. Participants were less likely to engage in partner notification if they practiced family planning, regardless of family marital structure or prior knowledge of family planning. Results showed differentiation between "verbal ritual" and "non-verbal ritual." Differentiation implications are discussed.

### Introduction

Sub-Saharan Africa remains the region worst affected by the HIV/AIDS epidemic. Unlike women in the world's other regions, African women are considerably more likely to be infected with HIV than men are. Among young people aged 15 to 24 years, women were found to be two-and-a-half times as likely to be HIV-infected as their male counterparts. While Africa's sexually transmitted infection (STI) and HIV (STI/HIV) burdens are reported to be the world's heaviest, prevalence patterns vary widely from the world's highest in parts of East and Southern Africa to lowest in West and Central areas (UNAIDS 2003). Nevertheless, high HIV incident rates persist matched by AIDS morbidity and mortality. Thus, without appropriate effective prevention interventions tailored to specific local needs, potential for rising prevalence is high in areas where rates are currently low.

Certain conditions in Sub-Saharan Africa apparently make the populations more susceptible to higher levels of morbidity and mortality from different causes. These include social dislocation, war, poverty, famine, starvation, environmental hazards and a patent lack of needed economic strength to compete in a world that is becoming more so, even for Africa's own resources (Stillwaggon 2001, UNAIDS 2003).

In year 2005CE, Guinea's estimated population was 9.003 million with a median age of 18.1 years, and 48.1 percent of the women in reproductive age (United Nations Population Division, Department of Economic and Social Affairs, World Population Prospects 2006). However, HIV prevalence rate for year 2001CE was 1.8%, mainly in urban areas; the highest prevalence being in Conakry, the capital city. According to current estimates (Direction Nationale de la Statistique Guinée and ORC Macro 2006), adult prevalence rate declined to 1.5% (1.2-1.8), with the highest rate in Conakry (>2%). It is important to note that reports of these distributions are estimates at best, since for various reasons, appropriate infrastructures for accurate surveillance are not yet fully developed in Africa.

While STIs have been known to predispose to increased HIV transmission rates, the pathologies and social implications are different, even though their behavioral elements may be similar. A careful review of ten-sample literature covering three years from 2002 to 2004 shows that several authors performed epidemiological surveys related to STIs in Sub-Sahara Africa (Abóyèjí et al. 2003; Hawks et al. 2004; Holt et al. 2003; Kamali et al. 2003; Mullick et al. 2004; Nworah et al. 2002; Xueref et al. 2003; Tattevin et al. 2002; Otuonye et al. 2002; Lavreys et al. 2003). In the published works, incidence and prevalence reported for STIs showed a varied pattern. Most surveys involved pregnant women at Antenatal clinics, in urban settings of tertiary medical institutions. Some involved young women and few addressed the male population. Reasons for such a pattern are not stated, but may be logistical and financial. However, conclusion from studying these research reports is that patterns of distribution and levels of knowledge of STI are relatively known in urban areas but not in rural areas where most of the population resides.

Research shows STIs render individuals more susceptible to HIV transmission (Lehman and Biro 2001, Kaur and Johnson 2003) due to several factors. These include coincidence of transmission in the same anatomical locations and similar behavioral activities/rituals. Behets et al. (2003) indicated that further HIV transmission could be averted with effective STI control since this helps to provide appropriate setting for HIV screening, especially among sex workers in certain areas. STI can thus be used as a sentinel condition and an indication for HIV testing, screening and other interventions. Furthermore, STIs generally present symptomatically much earlier than HIV infection because anatomical and pathophysiological effects become apparent much earlier. This period is critical to the primary and secondary prevention of HIV infection and re-infection. The critical importance of time can however only be advantageous for preventing HIV transmission, when the individual can quickly identify symptoms of STI and take communicative action. Without adequate and appropriate notification

therefore, accessing testing, screening and other appropriate interventions may not take place. For communication of such information, discussions related to sexual activities, intimacy and their corollaries could be critical in creating appropriate settings. The discussions may allow those involved to take steps to prevent re-infection of one another, and possibly primary infection of others in their sexual networks. Therefore examining communication behavior patterns of notification for both STIs and HIV becomes important.

### **Social Context of STI/HIV:**

Heterosexual distribution of STI and HIV in Africa is an important issue for many reasons. Sexual activity is important in procreation and issues of fertility and fecundity. Africa has the world's highest fertility and fecundity rates (Immerman and Mackey 2003; Mackey and Immerman 2002; McDevitt 1999; UNAIDS/WHO 2002; UNPD 2006), with having many children being highly valued in African cultural systems.

An important effect of the need for procreation is that normative value expectatytions for having children may sometimes override some of the concerns for STI, partly because there have been locally based and locally developed interventions used to address STI for millennia. Moreover, where living conditions demand survival behavior, having children becomes not a liability, but a valued genetic survival issue. Thus, cultural norms that value fertility are reinforced. Mertens and Carael (1998) wrote that sexual behavior in the third world is influenced by complex social and cultural contexts including peer influences, emotions, cultural beliefs, family marital settings, community social and demographic structures, and access to basic services. There is thus, a natural conflict between factors for procreation (genetic survival and thriving) and current most publicized ways to prevent STI/HIV transmission.

Since significant amounts of sexual activity takes place in family marital settings in Africa (Bandawe and Foster 1996), it is important to determine the effects of family marital dynamics and configurations on STI/HIV spread patterns among sexual partners within the marital setting. Polygynous families constitute a significant proportion of the household marital structure in sub-Sahara Africa (Modo 1999, 2001, 2002; Slap et al. 2001, 2003; UNPD 2002). The transmission of STI/HIV may thus be significantly influenced by family marital dynamics that will affect among others, family relationships (Kirshenbaum and Nevid 2002), fertility (Wesley et al. 2000), fecundity, and sexual activity among spouses (Flores et al. 2002; Mellins et al. 2002; Slap et al. 2001; Varga 2001; UNPD 2002, Wong and So-Kum Tang 2001). A key point is how the infected person deals with issues surrounding their relationships with their family after discovering they

are infected (Fortenberry et al. 2002), since this determines subsequent relationships, including sexual activity (Varga 2001).

#### **Social Communication Context of STI/HIV Transmission:**

Changes in social, physical and sexual relationships may affect communication and information sharing and vice versa (Ahmad 2000, Brown and Basil 1995, Kirshenbaum 1995, Mellins et al. 2002; Nevid 2002; Paxton 2002; Petrak et al. 2001; Serovich and Mosack 2003; Simoni and Mason 1997; Winstead et al. 2002). The communication and information sharing behavior of partner notification may therefore become a central issue in STI and HIV transmission control. It is thus important to identify how partner notification is influenced by such factors as stigma (Kirshenbaum and Nevid 2002; Paxton 2002; Mellins et al. 2002; Petrak et al. 2001; Winstead et al. 2002), family integrity and relationships, health, social communications, sexual communications, fear and other emotions.

Because sexual relationships are deeply embedded in social behavior and because social behavior is multi-contextual (Niccolai 2000; Vandervoort and Rokach 2003), STIs and HIV are essentially diseases with extensive social dimensions in norms, cultural contexts as well as mental, physical and emotional relationships. Winstead et al. (2002) pointed out that there were both negative and positive aspects of social interactions, regarding consequences of diagnosis for the infected and their significant others. Working through such considerations requires extensive internal and external negotiations. Negotiation processes include fact seeking, support seeking, emotional satisfaction and security (Vandervoort and Rokach 2003). Also included in negotiation elements is notification. Notification takes many forms, depending on the item of focus and valence derived from such exercise. For example, notification of pleasure by the receiving partner may reinforce and encourage a specific activity by the giving partner. In the sexual act for example, this may include caressing or kissing. On the other hand, before the sexual act, notification, verbal and non-verbal, is one of the principal tools for conveying/communicating desires, wishes and feelings. It also provides opportunities for identifying behavior-reinforcing or behavior-discouraging factors. One of the behavior modifying factors is absence or presence of STI and HIV. For these powerful factors, notification is a key communication behavior. Prediction of notification can help provide the basis for design, development, planning and implementation of prevention strategies to curb and eliminate the scourge of STIs and HIV with their human, social, economic and environmental costs. The purpose of this study was to identify the relationships between the communication behavior of partner notification and some predictors of this behavior in Sub-Sahara African families, using the Related Behavior Model (RBM).

### Theoretical/Conceptual Framework

Several theoretical frameworks and models were examined to determine "best fit" for predicting partner notification behavior. These include Social Cognitive Theory - SCT (Bandura 1986 1991), Health Belief Model - HBM (Becker 1974; Janz and Becker 1984); Trans-theoretical Model - TTM (Prochaska and DiClemente 1985), Theory of Reasoned Action - TRA (Ajzen and Fishbein 1975 1980; Fishbein et al. 1991), Theory of Planned Behavior - TPB (Ajzen 1991) and Theory of Planned Behavior with Goal Importance - TPB-GI (Sideridis 2002).

Table 1 was used to identify features and gaps in each theoretical model, and select a framework for predicting partner notification. As shown, though the models were comprehensive in some contexts, they do have several key gaps that made them not fully adequate to address the predicting elements in behavior. The gaps include: 1) prior behavioral experiences, which play a key role in determining repetition; 2) gap between knowledge, attitude, decision making and behavior. 3) dynamics of differences between one type of behavior and another, which entail similar activities but different outcomes 4) time, a key factor in STI/HIV transmission behavior, and 5) resources which may or may not be available where and when needed. Additionally, Ogden (2003) evaluated published research on these models and commented on three core issues concerning their fundamental nature:

"First, these models do not enable generation of hypotheses because their constructs are unspecific; they therefore cannot be tested. Second, the focus on analytic truths rather than synthetic ones, and the conclusions resulting from their application are often true by definition rather than by observation. Finally, they may create and change both cognitions and behavior rather than describe them" (Ogden 2003).

Ogden concluded that these models were useful in providing a framework for developing interventions designed to change health behavior, but were less useful when their conceptual bases were analyzed. A model that emphasizes and uses communication and other behavior interactions, and not solely cognitive and/or perceptual paradigms (knowledge, attitude and beliefs, perceptions or self-efficacy and decision-making), to assess and predict further or later behavior was thus needed. Combining various elements of the models examined above, a model that has measurable elements, which would provide the necessary structure for analyzing and predicting further or later behavior was developed.



The Related Behavior Model (RBM), consists of three themes and six elements, reflects the nature and relationships of the behavior being used to predict further behavior even though the outcomes may differ for the same behavior. The model as shown in Figure 1 was developed using current literature, evaluating their various elements to determine the most salient constructs.

### **Model Structure**

The Related Behavior Model (RBM) consists of three main themes and six predicting elements, each with a set of defining variables, depending on the target condition being addressed, and identified target behavior (Figure 1). The three main themes are Cognition, Environment and Related Behavior as predictors. The elements are Demographic Characteristics, Knowledge of Related Behavior, Knowledge of Target Condition, Social Structure, Related Behavior Discussions (Verbal Rituals), Related Behavior Practice (Non Verbal Rituals), Target Behavior constitutes the sixth element and dependent construct.

Details of model development are addressed elsewhere. Figure 2 illustrates the structure and elements of RBM applied to relationships between family planning behavior and partner notification, within polygynous families.

**Table 1:**  
**Theoretical Models Examined for Partner Notification of STI/HIV;**  
**their Features and Gaps**

Model	Features	Gaps
Social Learning Theory - (Miller and Dollard 1941), Social Cognitive Theory - (Bandura, 1986).	Value-expectancy based model. Underlying assumption: reciprocal determinism Continuing interaction between person, behavior and behavior environment. Variables: expectations, expectancies, self-control and self-efficacy. Phases: pre-training, training, initial self-testing and continued performance. Observational process	-Does not specifically include societal/cultural norms -Mostly passive -Does not address effect of previous or prior behavior
Health Belief Model - Becker (1984)	Balance of driving and restraining forces in behavior; three domains: Individual context of perception - 2 basic constructs: Perceived susceptibility to disease and Perceived severity of the disease condition Modifying factors: three constructs: Demographic variables, Socio-psychological factors, Structural variables. Likelihood of action, addresses motivation to make decisions based on factors not otherwise defined in the first two domains. Three constructs: Balance between individual's perceived positive and negative forces. Appraisal of susceptibility. Estimation of benefits and barriers to action; Self-efficacy	- Does not Consider effect of Prior Behavior on Subsequent Behavior Does not look at whether similar or different expectancies affect subsequent behavior Mostly examines cognitive and perceptual effects on behavior
Theory of Reasoned Action / Theory of Planned Behavior - Fishbein and Ajzen (1975)	Predicts behavior based on attitude in accordance with intentions and perceptions of control over behavior. Intentions influenced by attitudes towards behavior, subjective norms and perceptions of behavioral control Perceived Behavioral Control, Attitudes versus Norms, Sufficiency, Past Behavior with Intentions and their mediating elements for influencing behavior itself.	- Structure constructs predict intention, not Behavior. -Predicts only 20% of variance (Armitage & Conner, 2001) -Societal/cultural norms
Stages of Change / Trans-Theoretical Model - Prochaska and DiClemente, (1985)	-Four stages of change to engage in behavior change: Pre-Contemplation Contemplation Action Maintenance -Ten processes of change for each stage	Time consuming -Requires
Theory of Planned Behavior with Goal Importance - Sideridis and Kaissidis-Rodafinos (2001)	Goal importance Predicting: - Perceived Control - Belief Strength - Outcome Evaluation - Normative Beliefs - Motivation to Comply Above predicting: Intention; and intention predicting Behavior - Goal-driven.	-Prior behavior -Different outcomes of the same behavior -More specific elements of behavior dynamics

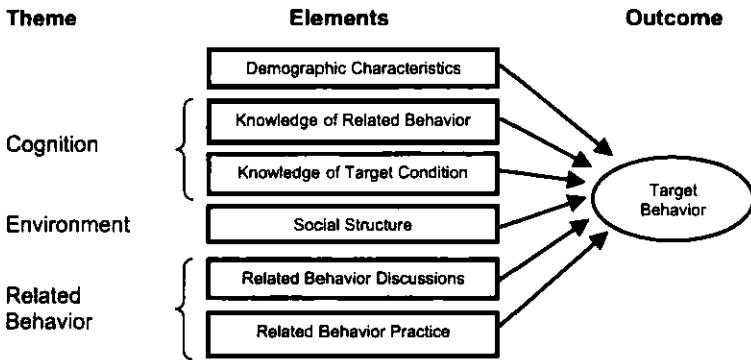


Figure 1: Related Behavior Model (RBM)

Operationalizing the constructs, predictors are Demographic Characteristics, Knowledge of Birth Control and Family Planning (Knowledge of Related Behavior), Knowledge of STI/HIV (Knowledge of Target Condition), Family Marital Structure (Social Structure), Family Planning Discussions (Related Behavior Discussions), Family Planning Practice (Related Behavior Practice). In this study, Target Condition operationalizes as Sexually Transmitted Infections and Human Immunodeficiency Virus (STI/HIV) while Discussions and Practice are classified as specific and unique behaviors. The dependent construct of Partner Notification of STI/HIV represented the Target Behavior.

### Methods

#### Research Design

This was a retrospective cross sectional study, using secondary data, to determine whether STI/HIV partner notification in the West-African Republic of Guinea was predictable using the Related Behavior Model, among monogynous and polygynous families. Macro International Inc., at 11785 Beltsville Drive, Suite 300 Calverton, MD 20705, owns the data. Macro International Inc. is a non-profit research organization that worked with the Guinean National Government, funded by the United States Agency for International Development (USAID) to conduct demographic and health surveys (DHS). This dataset was collected in 1999 for the Republic of Guinea in West Africa.

#### Sampling Design and Survey Execution

This multi-stage, stratified, clustered, and weighted probability sampling design, based on the Guinean National Census, produced a sample that rep-

resented the entire Guinean population. Sampling and interviewing were executed by trained personnel, performing specific functions to ensure consistency. The sample comprised of 8,000 women in reproductive age (15 to 49 years) and 2,000 men, age 15 to 59 years. This study examined the data sets on the survey of women only. The sampling frame was constructed from the basic Enumeration Area (EA) into which the country was zoned during the census of 1996, which served as the sampling base. The survey identified five study areas/zones: Lower Guinea, Middle Guinea, Upper Guinea, Forest Guinea and Conakry. Sampling, survey and data collection techniques are detailed elsewhere in *Enquête Démographique et de Santé Guinée 1999* (Macro International 2000). Figure 3 shows a summary of the sampling and survey procedures for the women.

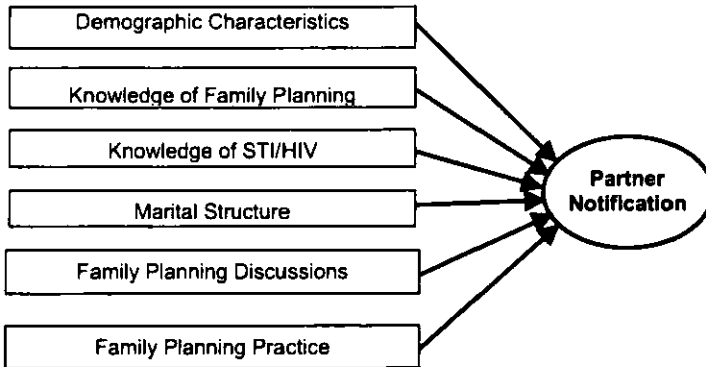


Figure 2: Related Behavior Model Applied to Prior Family Planning and Partner Notification in Polygynous and other Social Relationships

### Data manipulations:

Microsoft Excel® was used to clean the data and create the spreadsheet for transference from and to SPSS. SPSS® and Stata™ software were adequate for analyses, because they had specific sets of analytic functions and reporting required for selected analytical approaches in this study. SPSS® 13.0 was used to select variables, code, recode and test for validity and reliability to develop constructs. After the final set of construct measures was developed, recoded and scored, the resulting data set was converted to Stata™ 7.0, using StatTransfer™ for further descriptive and inferential analyses.

First, the entire data set was filtered using "STI infection in the last 12 months (year)." This produced, from the total sample size of 6,753, a subsample of 461, which was used for further analyses. Thus, this study exam-

ined the responses of women who had STI in the last 12 months before the survey interview. Variables with extremely low sample sizes (<5) were eliminated.

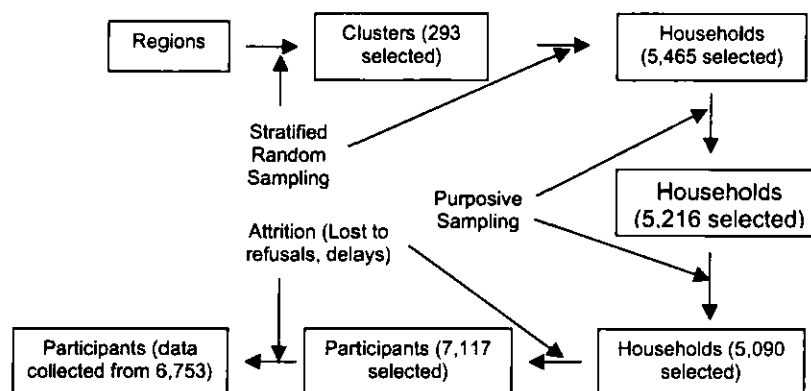


Figure 3: Thematic Flow Chart\* for DHS II Sampling Frame

\*Adapted from Macro International Report of Sampling Methodology for DHS II 1999

Variables with over ten percent missing data were also eliminated and those that had less than or equal to ten percent missing values had the cells replaced with imputed mean. These were then assessed for their distribution patterns using skewness and kurtosis values. Those with skewness larger than one were converted to their log values, which helped to centralize and normalize the distribution from either extreme left or extreme right.

### Selection of Variables and Analyses

For each construct, variables were selected using qualitative and quantitative techniques that included thematic scanning, hermeneutic, factor and alpha analysis. Figure 4 is a thematic diagram (flow chart) describing methods used to select data for analyses. The variables were first selected by visual scanning, using thematic similarities and implications based on qualitative research methods (Alligood and Fawcett 2004; Conroy 2003; Cunningham 2004; Dowling 2004; Giannoni 2003; Geertz 2003; Landridge 2004; Levine-Silverman 1989), to select word meaning. The main themes were based on keywords reflecting Demographic Characteristics, HIV Knowledge, awareness or experience, STI Knowledge, awareness or experience, Polygynous and/or Monogynous Family Marital Structure, Discussions of Family Planning and Birth Control, Practice of Family Planning and Birth Control, Partner Notification (direct and indirect). Hermeneutic methods were then used to select variables based on linguistic meanings, cultural, social, philosophical and religious implications of the keywords,

and their relationships to constructs of the related behavior model (RBM).

The resulting data set was then analyzed and manipulated through variable reselection using various quantitative techniques including use of the codebook, management of missing data, data coding and recoding, Exploratory Factor Analyses (EFA) and Alpha Analyses. Factor and alpha analyses were performed to determine what variables best defined each construct. Variables with low fit indices were eliminated from further analyses. Validity and reliability tests showed Eigenvalues and Cronbach's Alpha respectively were satisfactory for all constructs (Table 5). Details of selection analyses procedures are addressed and reported elsewhere. Finally, descriptive and inferential analyses were performed to describe the distribution of dependent and independent variables and determine their relationships. Final independent variables consisted of dichotomized scores (high vs. low) received in knowledge of family planning, knowledge of HIV/AIDS, family marital structure, family planning discussions and family planning practice. The dependent variable was partner notification (dichotomized to "high" and "low" scores)

Inferential Analyses consisted mainly of logistic regression of the independent and outcome constructs in both unadjusted and adjusted models. During logistic regression analyses, independent constructs were used to predict partner notification in three configurations of two outcomes (partner notification and no partner notification). The regression models were performed in four phases; 1. unadjusted demographic variable and construct models, 2. adjusted demographic model (within the demographic variables domain), 3. adjusted constructs model (within the constructs group separately), and 4. adjusted demographic and constructs model with all groups merged. Figure 4 is a thematic flow chart summarizing the steps in data management and analyses.

### Results

Of the eligible women, 6,753 (94.89 percent) were successfully surveyed. Mean age of participants was 29.03 years (SD=9.48) with median and mode of 28 and 25 years, respectively. Of the total sample, a sub-sample of 461 was included in analyses, based on their infection status in the 12 months prior to survey. Results indicating demographic distribution of survey participants in the selected sub-group are shown in Table 2. Age distribution shows that women 25 to 34 years age formed the largest group (38.83% percent) in the sample. Most respondents lived outside the national capital, Conakry, from which 19.74 percent were sampled. In addition, most of the respondents (62.91%) lived in rural settings, while 81.44% were Muslim and three main ethnic groups formed the majority (26.21% Malinké, 18.06% Peulh and 35.46% Soussou). Nearly three of every four

represented the entire Guinean population. Sampling and interviewing were executed by trained personnel, performing specific functions to ensure consistency. The sample comprised of 8,000 women in reproductive age (15 to 49 years) and 2,000 men, age 15 to 59 years. This study examined the data sets on the survey of women only. The sampling frame was constructed from the basic Enumeration Area (EA) into which the country was zoned during the census of 1996, which served as the sampling base. The survey identified five study areas/zones: Lower Guinea, Middle Guinea, Upper Guinea, Forest Guinea and Conakry. Sampling, survey and data collection techniques are detailed elsewhere in *Enquête Démographique et de Santé Guinée 1999* (Macro International 2000). Figure 3 shows a summary of the sampling and survey procedures for the women.

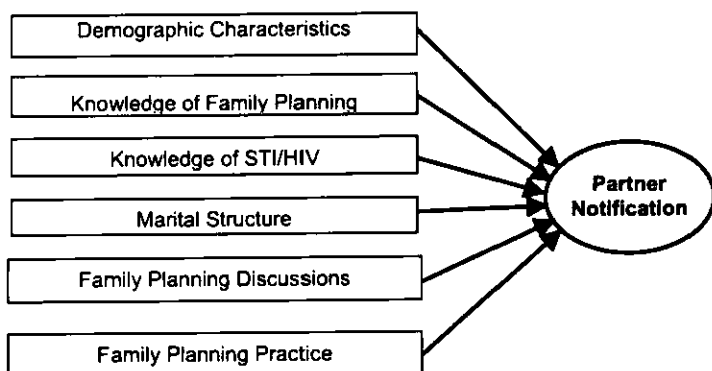


Figure 2: Related Behavior Model Applied to Prior Family Planning and Partner Notification in Polygynous and other Social Relationships

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First, the entire data set was filtered using "STI infection in the last 12 months (year)." This produced, from the total sample size of 6,753, a sub-sample of 461, which was used for further analyses. Thus, this study exam-

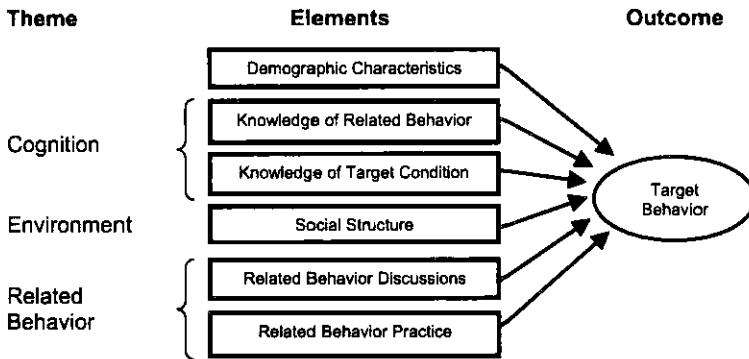


Figure 1: Related Behavior Model (RBM)

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#### Sampling Design and Survey Execution

This multi-stage, stratified, clustered, and weighted probability sampling design, based on the Guinean National Census, produced a sample that rep-



respondents in the sub-sample (72.67%) had no western style education while 15.40 percent had elementary level, and 11.93 percent had more than primary school education respectively. In addition, most respondents (82.21%) were currently working or productively engaged while only 17.79 percent were not employed.

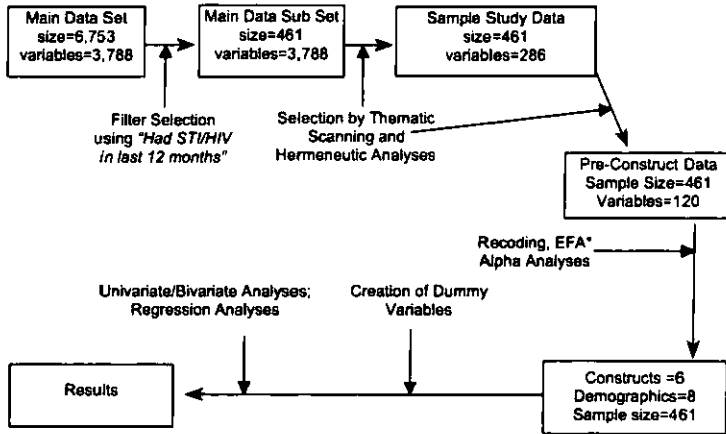


Figure 4: Thematic Flow Chart for DHS II (1999) Data Management Showing Steps for Data Preparation and Analyses for predicting partner notification among women who reported having STI/HIV in the past 12 months in the Republic of Guinea.

\* EFA=Exploratory Factor Analysis

Results of validity and reliability analyses are shown in table 3. Three variables were selected by analyses for Knowledge of Family Planning (Related Behavior); Knowledge of STI/HIV included seven measures representing clinical presentation of STI and/or direct knowledge of HIV/AIDS. The two variables for Family Structure included number of other wives and wife rank number. Variables for Family Planning Discussions included three measures while those for Family Planning Behavior included three selected measures. Variables for Partner Notification consisted of two selected measures. The Eigenvalues and Cronbach's Alpha levels were satisfactory and statistically significant for all constructs.

Construct scores were dichotomized into high and low levels, based on total score of the measure variables (Table 4). High scores were those that indicated high or positive Knowledge of Family Planning and Disease, Stronger (monogynous or first ranked wife) Family Marital Structure for notification, presence of Family Planning Discussions and presence of Family Planning Practices/Activities. Table 4 shows distribution of high/low scores in the constructs. Associations of demographic variables and con-

struct scores with partner notification are shown in tables 5 and 6 respectively.

Age and Partner Notification showed borderline significant association ( $\chi^2=5.0012$ ,  $p=0.082$ ). Region of Residence and Partner Notification were not significantly associated ( $\chi^2=0.9649$ ;  $p=0.326$ ). Bivariate and within group multivariate logistic regression outcomes are shown in Tables 7 and 8 for demographic variables and constructs respectively. Significantly, in the unadjusted (bivariate) model, age (being 35-49 years old) and region of residence (living in Upper Guinea), more than any other variables in the group influenced partner notification (C.I.=1.12 to 3.80;  $p$ -value=0.021 and CI=1.77 to 12.25;  $p$ -value=0.002 respectively). Also, Religion, Ethnicity, Education and Employment were not significantly associated with Partner Notification. Overall, only Knowledge of Disease Condition (STI/HIV) and Family Planning discussions (Discussions of Related Behavior) showed any significant associations with partner notification.

**Table 2:**

Demographic Characteristics of Women, Age 15 to 49 years, who Reported Having STI/HIV in last Twelve Months: Guinea DHS 1999

Variable	n	Percent
Age (Total)	(461)	100.00
15-24	(158)	34.27
25-34	(179)	38.83
35-49	(124)	26.90
Region of Residence (Total)	(461)	100.00
Lower Guinea	(141)	30.59
Central Guinea	(55)	11.93
Upper Guinea	(21)	4.56
Forrest Guinea	(153)	33.19
Conakry	(91)	19.74
Type of Place of Residence (Total)	(461)	100.00
Urban	(171)	37.09
Rural	(290)	62.91
Religion (Total)	(458)	100.00
Muslim	(373)	81.44
Non Muslim	(85)	18.56
Ethnicity (Total)	(454)	100.00
Sousou	(161)	35.46
Peulh	(82)	18.06
Malinké	(119)	26.21
Others	(92)	20.26
Western Education (Total)	(461)	100.00
None	(335)	72.67
Primary	(71)	15.40
Secondary and Higher	(55)	11.93
Employment (Total)	(461)	100.00
No	(82)	17.79
Yes	(379)	82.21

Table 3:

Validity and Reliability Test Results for Independent and Dependent Constructs of the Related Behavior Model. Women Age 15 to 49 years, who Reported Having STI/HIV in the last Twelve Months: Guinea DHS1999

Construct (# of measure variables)	Factor Analyses (Validity Test) Results					Alpha Analyses (Reliability Test) Results			
	EV	% Var	KMO	$\chi^2$	df ( $\rho$ )	$\alpha^2$	F	$\rho$	n
Knowledge of Family Planning (2)	2.741	91.382	.739	1733.85	3 (.000)	0.7342	237.68	0.000	461
Knowledge of STI/HIV (7)	8.994	89.938	.616	169.697	45 (.000)	0.6831	881.44	0.000	461
Family Marital Structure (2)	4.000	100.00	.520	81.631	3 (.000)	0.7743	258.64	0.000	461
Family Planning Discussions (3)	3.361	84.018	.543	232.384	6 (.000)	0.6287	225.64	0.000	461
Family Planning Practices (3)	2.669	88.98	.501	656.425	3 (.000)	0.7381	81.54	0.000	461
Partner Notification (2)	6.000	100.00	-	-	-	0.7811	50.40	0.000	461

$\alpha^2$ =Cronbach's Alpha; df=degrees of freedom; EV=Eigenvalues; F=F-Value; KMO=Kaiser-Meyer-Olkin Measure of Sampling Adequacy; n=Sample Size/Frequency;  $\rho$ =P-value; % Var=Percent Variance;  $\chi^2$ =Chi Square Value.

When the models were adjusted for with the inclusion of other variables within the demographic set, the patterns of statistical significance remained the same. Only age group 35 to 49 years and living in Upper Guinea had strong relationships with Partner Notification (C.I.=1.30 to 4.86;  $p$ -value=0.006 and CI=1.88 to 24.63;  $p$ -value=0.003 respectively).

Odds ratios regarding the relationships of Partner Notification (table 8) examined with Knowledge of Family Planning, Knowledge of STI/HIV, Family Marital Structure, Discussing Family Planning, Engaging in Family Planning

Table 4:

Behavioral and Other Construct Scores, Showing Distribution of Women, Age 15 to 49 years, Who Reported Having STI/HIV in last Twelve Months: Guinea DHS 1999

Constructs	Score	Frequency	Percent
Family Planning Knowledge (n=461)	Low	(125)	27.11
	High	(336)	72.89
STI/HIV Knowledge (n=461)	Low	(290)	62.91
	High	(171)	37.09
Family Structure (n=384)	Low	(220)	57.29
	High	(164)	42.71
Family Planning Discussions (n=377)	Low	(204)	54.11
	High	(173)	45.89
Family Planning Practice (n=461)	Low	(396)	85.90
	High	(65)	14.10
Partner Notification (n=461)	Low	(55)	11.9
	High	(406)	88.1

Activities and having more than one wife showed only Knowledge of STI and Family Planning Discussions had any statistically significant relationships in the adjusted within constructs group (C.L.=1.05 to 3.04,  $p$ -value=0.032 and CL=1.36 to 4.31,  $p$ -value=0.003 respectively) and bivariate (C.L.=1.00 to 2.58;  $p$ -value=0.052 and CI=1.32 to 3.66;  $p$ -value=0.002 respectively) models. However, the Bivariate Odds Ratio for Knowledge of STI/HIV was only borderline significant. The relationships of Partner

Notification, with Demographic variables and Constructs, analyzed together in one model (Table 9) shows that age was not a significant influence.

However significant effects were observed with region of residence (Upper Guinea: C.I.= 1.50 to 21.96  $p$ -value =0.011), Knowledge of STI/HIV (Upper Guinea: C.I.= 1.90 to 3.74  $p$ -value =0.025) and Family Planning Discussions (Upper Guinea: C.I.= 1.230 to 4.06  $p$ -value =0.008).

With this geographical and socio-economic picture, changes and interactions in the predictions raise many questions regarding their true nature, their impact, and requirements for addressing them. In summary, significant positive demographic relationships included being 35 years to 49 years of age and living in Upper Guinea. There were no significant negative or inverse relationships with Partner Notification. For the independent constructs, having knowledge of STI/HIV and discussing family planning showed statistically significant relationships with partner notification.

#### Discussion

For the sample of women surveyed in the Republic of Guinea, using Macro International's 1999 Demographic and Health Survey of Guinea in West Africa (Guinea DHS 1999): 1) Partner notification was strongly positively associated with being 35 to 49 years old, from Upper Guinea. However, living in rural areas, level of education and Religion, Ethnicity and Employment status had no significant relationships; 2) Women who had knowledge of family planning were not significantly more likely than those who had little or no knowledge, to inform their partners of their STI/HIV status when known; 3) Women who had knowledge of STI/HIV were more likely to inform their husband of their status when known; 4) Women who engaged in family planning discussions were more likely to inform their husbands of their infection status when known. For this group, the less they discussed, the more likely they were to not inform their husbands; 5) Family planning practice and family marital structure were not significantly influential in determining if a woman would notify her spouse of her infection status.

Table 5:

Bivariate Distribution showing Association of Demographic Variables with Partner Notification for Women, Age 15 to 49 years, who Reported Having STI/HIV in last Twelve Months: Guinea DHS 1999

Variable		Partner Notification				$\chi^2$ -value	p-value
		No		Yes			
		n	Percent	n	Percent		
Age (Total)	15-24	22	13.32	136	86.08	5.0012	0.082
	25-34	34	18.99	145	81.01		
	35-49	30	24.39	93	75.61		
Region of Residence	Lower Guinea	23	16.31	118	83.69	16.0522	0.000
	Central Guinea	5	9.09	50	90.91		
	Upper Guinea	10	47.62	11	52.38		
	Forrest Guinea	32	21.05	120	78.95		
	Conakry	16	17.58	75	82.42		
Type of Place of Residence	Urban	28	16.32	143	83.63	0.9649	0.326
	Rural	58	20.07	231	79.93		
Religion (Total)	Muslim	68	18.23	305	81.77	0.4590	0.498
	None Muslim	18	21.43	66	78.57		
Ethnicity (Total)	Sousou	31	19.25	130	80.87	1.9510	0.377
	Malinké	27	22.69	92	77.31		
	Peulh, Kisi and Others	28	16.18	145	83.82		
Western Education	None	62	18.56	272	81.44	1.3662	0.505
	Primary	11	15.49	60	84.51		
	Secondary and higher	13	23.64	42	76.36		
Employment (Total)	No	14	17.07	68	82.93	0.1728	0.678
	Yes	72	19.05	306	80.95		

Scoring: High scores indicate high or positive knowledge of family planning and disease, weak family structure for notification, presence of family planning discussions and presence of family planning activities/practices

Results of this investigation suggest that knowledge that is specific for the target condition, in this case STI/HIV knowledge, was a key predictor of partner notification. That is, those who knew more about the disease conditions tended to notify their partners of their STI/HIV status when known. Of the total number of respondents in this sample (461), only a minority (37.09 percent) scored high in knowledge of STI/HIV. However, when the scores were examined with respect to their individual defining variables, an overwhelming majority had heard of AIDS (89.80 percent of 461); and a significant majority had had abdominal pain (65.8 percent of 461) and discharge (56.40 percent of 461). However, abdominal pain and vaginal discharge can be caused by other than STI/HIV, thus those symptomatology may be influenced by other confounders in generating behavior change. On the other hand, the overwhelming majority had no or low knowledge of the symptoms and signs of most STI, including gonorrhoea, syphilis or other causes of genital ulceration, which may also indicate a level of familiarity and therefore comfort with discussions of both intimate issues and threat issues related to them.

The influence of Knowledge of HIV/AIDS may be an important factor since knowledge of HIV may have been based mainly on public health education, which may not necessarily provide adequate clinical presentation information to the public. This may explain the low knowledge of symptoms and signs of STI, which has been known to serve as a surrogate or sentinel

infection for HIV screening and secondary prevention. Thus, even though there was knowledge and familiarity with HIV/AIDS information in the population, it is difficult to determine conclusively in this sample with regard to knowledge of STI/HIV, what could be responsible for the high likelihood to notify their husbands.

On the other hand, however, knowledge of family planning did not have similar significant effects. This may be related to the social value and expectancy for children and the perceived threat levels for stigma, which are different from those of STI. Thus, women who became pregnant from sexual activity with their husbands were honored instead of being stigmatized.

Table 6:

Bivariate Distribution showing Association of Behavioral Constructs with Partner Notification for Women, Age 15 to 49 years, who Reported Having STI/HIV in last Twelve Months: Guinea DHS 1999

Variable	Partner Notification				$\chi^2$ -value	p-value
	No		Yes			
	n	Percent	n	Percent		
Family Planning Knowledge <sup>1</sup>	86	18.70	374	81.30	0.0024	0.961
High Score (1-2)	23	18.55	101	81.45		
Low Score (0)	63	18.75	273	81.25		
STI/HIV Knowledge <sup>2</sup>	86	18.70	374	81.30	5.2125	0.022
High Score (4-7)	45	15.52	245	84.48		
Low Score (0-3)	41	24.12	129	75.88		
Family Marital Structure	82	21.41	301	78.59	0.008	0.977
High Score (1-2)	35	21.34	129	78.66		
Low Score (0)	47	21.46	172	78.54		
Family Planning Discussions	80	21.28	296	78.72	9.5006	0.002
High Score (2-3)	31	15.27	172	84.73		
Low Score (0-1)	49	28.32	124	71.68		
Family Planning Practice	86	18.70	374	81.30	0.0027	0.958
High Score (2-3)	12	18.46	53	81.54		
Low Score (0-1)	74	18.73	321	81.27		

<sup>1</sup>Scoring: High scores indicate high or positive knowledge of family planning and disease, weak family structure for notification, presence of family planning discussions and presence of family planning activities/practices

Table 7:

Within Group Unadjusted (Bivariate) and Adjusted Odds Ratios from Logistic Regression Analyzing Relationships between Demographic Variables and Partner Notification for Women, Age 15 to 49 years Who Reported Having STI/HIV in last Twelve Months: Guinea DHS 1999

Independent Variables	Partner Notification (Dependent Variable)							
	Bivariate			Model Adjusted*				
	OR	Confidence Limits		p-value	OR	Confidence Limits		p-value
Lower		Upper	Lower			Upper		
<b>Demographic Variables</b>								
<b>Age Category (years)</b>								
15-24 (RC)	1.00	-	-	-	1.00	-	-	-
25-34	1.44	0.80	2.39	0.224	1.51	0.83	2.77	0.180
35-49	2.06	1.12	3.80	0.021	2.52	1.30	4.86	0.006
<b>Region of Residence</b>								
Lower Guinea (RC)	1.00	-	-	-	1.00	-	-	-
Central Guinea	0.51	0.18	1.42	0.199	.098	0.24	4.07	0.976
Upper Guinea	4.66	1.77	12.23	0.002	6.81	1.88	24.63	0.003
Forrest Guinea	1.35	0.75	2.45	0.317	1.77	0.63	4.98	0.282
Conakry	1.08	0.54	2.19	0.822	1.26	0.51	3.07	0.618
<b>Type of Residence</b>								
Urban (RC)	1.00	-	-	-	1.00	-	-	-
Rural	1.24	0.76	2.05	0.391	1.49	0.67	3.32	0.333
<b>Religion</b>								
None Muslim (RC)	1.00	-	-	-	1.00	-	-	-
Muslim	0.80	0.45	1.44	0.464	0.56	0.15	2.12	0.395
<b>Ethnicity</b>								
Fulth & Others (RC)	1.00	-	-	-	1.00	-	-	-
Sousou	1.31	0.74	2.30	0.352	2.78	0.86	8.97	0.087
Malinké	1.61	0.89	2.92	0.114	1.81	0.55	5.99	0.325
<b>Educational Level</b>								
None (RC)	1.00	-	-	-	1.00	-	-	-
Primary	0.81	0.40	1.63	0.556	1.29	0.60	2.77	0.519
Secondary & Higher	1.41	0.71	2.79	0.325	2.10	0.91	4.85	0.083
<b>Employment Status</b>								
Not Employed (RC)	1.00	-	-	-	1.00	-	-	-
Employed	1.10	0.58	2.07	0.774	1.09	0.50	2.39	0.824

OR=Odds Ratio; RC=Reference Category; \* $\chi^2=26.43$ ;  $p$ -value=0.0166 (demographics); \* $\chi^2=13.84$ ;  $p$ -value=0.167 (constructs)

Table 8:

Within Group Unadjusted (Bivariate) and Adjusted Odds Ratios from Logistic Regression, Analyzing Relationships between Behavioral Constructs and Partner Notification for Women Age 15 to 49 years, Who Reported Having STI/HIV in last Twelve Months: Guinea DHS 1999

Independent Variables	Partner Notification (Dependent Variable)								
	Bivariate			Model Adjusted*					
	OR	Confidence Limits		$\rho$ -value	OR	Confidence Limits		$\rho$ -value	
	Lower	Upper		Lower	Upper				
<b>Behavioral Constructs</b>									
<b>Knowledge of Family Planning</b>									
Low Score (0) (RC)	1.00	-	-	-	1.00	-	-	-	-
High Score (1-2)	1.05	0.62	1.78	0.862	1.08	0.61	1.90	0.796	
<b>Knowledge of STI/HIV</b>									
Low Score (0-3) (RC)	1.00	-	-	-	1.00	-	-	-	-
High Score (4-7)	1.60	1.00	2.58	0.052	1.79	1.05	3.04	0.032	
<b>Family Marital Structure</b>									
Low Score (0) (RC)	1.00	-	-	-	1.00	-	-	-	-
High Score (1-2)	0.99	0.60	1.63	0.970	0.78	0.46	1.33	0.361	
<b>Family Planning Discussions</b>									
Low Score (0-1) (RC)	1.00	-	-	-	1.00	-	-	-	-
High Score (2-3)	2.20	1.32	3.66	0.002	2.42	1.36	4.31	0.003	
<b>Family Planning Practice</b>									
Low Score (0-1) (RC)	1.00	-	-	-	1.00	-	-	-	-
High Score (2-3)	0.98	0.50	1.93	0.958	1.30	0.54	3.16	0.554	

OR=Odds Ratio; RC=Reference Category; \* $\chi^2=26.43$ ;  $\rho$ -value=0.0166 (demographics); \* $\chi^2=13.84$ ;  $\rho$ -value=0.167 (constructs)

The data set however does not contain information for such analysis and such suppositions remain to be validated. This may have implications for education planning and the content of health education for the prevention of HIV/AIDS and other STIs in Guinea. This finding points to possible modifications in the content of education information and messages to include information about clinical presentation of STIs. The implications may be many, but it might be useful to look at the effect of such knowledge on decision-making and action with regard to partner notification and thus control of STI/HIV transmission. In this study, family planning discussions showed a significant relationship with partner notification. The higher scores (more discussions of family planning), when combined in a full model, were more likely to elicit partner notification by one hundred and twenty-four percent. From the first unadjusted model to the full, adjusted model, partner notification and family planning discussion associations were strong, and remained so.

The finding in this research that family planning activity did not have any strong or significant influence on partner notification suggests that talking about something seems to be more influential in predicting a behavior than actually doing it. This goes against the common cliché that action speaks louder than words. Such suggestion raises several questions. These include whether behavior similarity or behavior outcome were the more predictive. In this study, behavior that is verbal (talking about family planning)



predicted another mostly verbal behavior (notifying the partner of STI/HIV status). It is also to be noted that both outcomes: conception and STI/HIV transmission derive from the same activity (sex). Thus, the questions arise whether sexual activity is central to the issues involved in partner notification or whether it is discussing issues related to reproductive anatomy that generates the outcomes identified. Those questions are difficult to answer with this data set. On the other hand, it is important to identify that this study highlights two different classes of behavior: the talk or verbal behavior and the non-talk or non-verbal behavior.

Table 9:

Table 9 Full Model Adjusted Between Groups Odds Ratios for Logistic Regression Analyzing Relationships between Demographic Variables, Independent Constructs and Partner Notification for Women between Age 15 and 49 years Who Reported Having STI/HIV in the last Twelve Months: Guinea Demographic and Health Survey 1999

Independent Variables		Partner Notification (Dependent Variable)			
		All Variables Adjusted*			
		OR	Confidence Limits		p-value
Lower	Upper				
Age Category (years)	15-24 (RC)	1.00	-	-	-
	25-34	0.92	0.47	1.83	0.820
	35-49	1.85	0.90	3.80	0.092
Region of Residence	Lower Guinea (RC)	1.00	-	-	-
	Central Guinea	1.12	0.22	5.79	0.892
	Upper Guinea	5.74	1.50	21.96	0.011
	Forrest Guinea	1.36	0.40	4.64	0.619
Type of Residence	Conakry	0.89	0.29	2.66	0.830
	Urban (RC)	1.00	-	-	-
Religion	Rural	1.12	0.22	5.79	0.892
	None Muslim (RC)	1.00	-	-	-
Ethnicity	Muslim	0.50	0.11	2.22	0.361
	Peulh & Others (RC)	1.00	-	-	-
Educational Level	Sousou	3.25	0.86	12.27	0.082
	Malinké	2.25	0.60	8.36	0.228
	None (RC)	1.00	-	-	-
Employment Status	Primary	1.01	0.37	2.71	0.992
	Secondary and Higher	2.47	0.83	7.32	0.103
	Not Employed (RC)	1.00	-	-	-
F-P Knowledge	Employed	0.73	0.32	1.68	0.465
	Low Score (0) (RC)	1.00	-	-	-
STI/HIV Knowledge	High Score (1-2)	1.54	0.80	2.96	0.200
	Low Score (0-3) (RC)	1.00	-	-	-
Family Structure	High Score (4-7)	2.02	1.09	3.74	0.025
	Low Score (0) (RC)	1.00	-	-	-
F-P- Discussions	High Score (1-2)	0.85	0.49	1.48	0.575
	Low Score (0-1) (RC)	1.00	-	-	-
F- P- Practice	High Score (2-3)	2.24	1.23	4.06	0.008
	Low Score (0-1) (RC)	1.00	-	-	-
	High Score (2-3)	1.40	0.51	3.84	0.512

OR=Odds Ratio; RC=Reference Category; F-P=Family Planning \* $\chi^2=41.94$ ; p-value=0.0011.

What may bear more scrutiny is the pointer that "talk behavior" can predict another "talk behavior," since partner notification, though involving many different rituals, depending on setting, is essentially a verbal communication behavior. Thus, with regard to STI/HIV transmission, identifying the verbal communication behavior and differentiating from the non-verbal type in predicting other talk behavior outcomes may be useful in designing appropriate messages and settings for either or both to occur effectively.

Reasons for the differences between those who engaged in discussions and those who practiced family planning may be many. One of the more salient ones may be that those who discussed family planning and those who engaged in family planning may have been two different groups of people and that one may be exclusive of the other in their socio-economic and other characteristics. This could not be deduced from the data set and further tools designed for this purpose would be needed to answer this and other questions related to the dynamic of interactions between the effect of discussions and actual practice, especially in limited time situations like HIV transmission, for behavior to be enacted.

Finally, the hypothesis that related behavior practice could predict partner notification was not supported. Higher scores in Family Planning Behavior (engaging in family planning activities) had no statistically significant predictive relationship with partner notification. This means those who did not engage in family planning activities were not more or less likely to inform their partners of their STI/HIV status than those who did. However, the opposite was not true for those who score lower in family planning activities. Those who score lower in family planning activities were not more likely to inform their partners (OR=1.40, CL=0.51 to 3.83;  $p$ -value=0.512). That these statistics were not significant, presents a unique situation. Any reluctance to notify the partner of infection status could present a problem for intervention when those who practice family planning and those who do not practice family planning fail to notify their partners. It is not clear how this will be addressed, but what is clear is that it will need to be addressed since it involves all of the population by implication (there can be only two groups, those who practice family planning and those who do not) unless the behavior of family planning discussions can be enhanced in both the infected and the at-risk.

#### **Model Validity and Reliability Issues:**

The model for this study was developed de novo, due to various weaknesses identified in extant models examined, which were relevant to this study. Although three of the five hypotheses were not supported, it is important to note that, generally, secondary data do not provide the best measures

for theoretical models that were not used to design the measurement tools. As a result, the hypotheses still stand to be tested in another study in which the tools would have been designed and tested for this purpose and better tailored to the model. However, the available measures were tested and validated in four main ways. The first was a thematic evaluation, using hermeneutic approaches. The strength of this approach is that it tends to select the most relevant measures, based on the key elements of the construct and both the internal, inferential and implicational meanings of the words used in the constructs, in order to achieve high fidelity with the theme and spirit of the construct of interest. For example, the specific construct of partner notification could be viewed from many angles, but the accuracy of measures and their specificity to the construct will have to consider the specific cultural communication behavior and the social relationships and values that drive modes and approaches to communication. In some African groups, for example the Yorùbá, providing direct information on some issue that is likely to generate turmoil or stress in either the individual or the relationship is a complex matter that may involve going either through surrogates or through related communication modes to alert the receiver to the information in a suggestive manner. This is sometimes a more effective approach than direct communication.

#### **Implications for Transmission Control:**

Current statistics regarding HIV/AIDS, especially in urban areas of the country illustrate the urgency of determining the underlying epidemiological patterns of transmission. From a general prevalence rate of 1.7 percent in 2003, the numbers had risen to 3.5 percent in 2005 and then dropped back to 1.2 percent in 2006. More ominously was that the rate is currently as high as 7 percent in the forest region of the country and 42.3 percent among sex workers (USAID 2004). Overall, resiliency factors for health promoting behavior that militate against the transmission of infection but enhance the transmission of health promoting and protective information and behavior may need to be explored in these populations, which have their own characteristics that have not yet been studied. In addition, because of the resource poor environment, it is even more important to focus on behavioral resilience that will require little, if any material resources that are already fixtures in other settings.

#### **Sampling Frames and Generalizability Effects**

The sampling frames used represent the Guinean population. This representative sampling methodology provides the basis for more significant generalization of the results among the Guinean population. In addition, because the samples are weighted, they actually represent a larger absolute

sample size, obeying the central limits theory. The effect is to increase the statistical power of the results obtained. It may be pertinent to point out that though knowledge seemed to have an edge over actual practice in this work, it may be prudent not to jump to any conclusions regarding the possible effect in other areas of research using this model. In addition, there has been no conclusively clear effect of Family/Social Structure on behavior. In polygynous settings, the complexities of underlying social dynamics are yet to be studied and understood. Also, the complexity of relationships among knowledge, social structure and related behavior are yet to be mapped. However, it is safe to conclude in this study that the model used, although developed *de novo*, possesses some predictive abilities, which may prove useful in this and other situations.

### **Research Strengths and Weaknesses**

The weaknesses of this research methodology include the design itself, which is cross sectional, looking at only a specific and limited period. Thus, the findings and conclusions cannot be generalized to the population beyond that period. To determine if there are any trends, longitudinal studies would be needed. Furthermore, the study is performed with secondary data. The drawbacks to using secondary data in studies such as these include the fact that the survey was actually performed for different reasons than the one to which it was put for this evaluation. The skewed nature of some of the variables could have been responsible for the insignificant findings seen in some of the constructs and their effects. A conceptual and paradigm bias may have been introduced in the analyses, especially in validity and reliability exercises to ensure scientific parsimony. This kind of bias is hard to do anything about without acquiring fundamentally relevant conceptual and theoretical bases that fit the population of interest. This was attenuated by using thematic hermeneutic approaches that allowed the researcher to select the variables, based as much as possible, on the paradigms related to the special features of the study population and sample. Nevertheless, the answers provided were diligently reported with high fidelity to what the numbers reflect.

A final weakness may have been the use of a *de novo* model to try to devise means to predict or understand a phenomenon. While this may highlight a lack of long-term repeated testing and modification, it nevertheless provides a snap shot pointer and opening effort, for what may be a major area for study over time. However, the model remains to be tested over time in various settings for various phenomena, using various tools. Finally, the stratified, weighted nature of the sampling may have introduced some selection bias. This bias is usually difficult to detect from secondary data since it may be a systematic bias that is inbuilt into the data themselves. Correcting

for such a bias is futile.

Some strengths of this research included that the weighted sampling was representative of the population as a whole. As a result, the distribution patterns across all variables closely approximated that of the Guinean population. However, this has limited generalizeability but enough to point at a need for further research. Another strength is the relative demographic homogeneity of this population. This homogeneity may have prevented some confounding and therefore allowed analyses that are more direct. The general homogeneity by region especially allowed for a strengthening of the whole sample since there was appreciable regional homogeneity in terms of ethnic distribution. A further strength of the study may have been related to the analytic approaches used. The use of validity and reliability tests may have helped to produce a much less biased sample and immunized against researcher perceptual bias. This allowed for a balance of the need for fidelity to cultural sensitivity and the need for empirical scientific rigor. The use of several levels of screening for variables selection may have helped to remove bias, engender balance and make the constructs more reliable and valid for analyses, rendering the outcomes more reliable. Finally, the main strength of this analytical approach is that it allows the researcher to select variables and achieve some modicum of reliability and validity before recoding, allowing for the use of valid and reliable data for the research.

#### Implications of Research for Epidemiology

Although various elements of the conceptual model showed some weak associations, it is important to note that some specific behavioral epidemiological issues were highlighted. One important finding is that knowledge of a related outcome of one behavior itself may sometimes be a sufficient catalyst that may generate some other form of behavior. Included with these is that the reasons for behavior may have been due to the content and form of educational message circulating within the population. Behavior action or non-verbal activity can be strongly influenced by the kind of information shared. As a result, the implication of this for prevention behavior to avoid transmission of infection is that messages for prevention need to include adequate information that not only generated fear or other forms of emotion, but also provide information on both recognition of the problem and action steps to be taken to address the issue at the individual level. These may need to be woven into the cultural medium of the population itself. Hence, to be effective, communication may need to be based in the cultural context of interchange.

One more implication for the transmission of infection and the epidemiology of infection transmission is that prior behavior may not necessarily provide the basis for predicting further behavior. However, it is noteworthy that two kinds of behavior may have different pathways for expression.

These two pathways are those of "talking" about a behavior (a behavior by itself) and actually "acting" or "doing" "non verbal" form of the behavior itself. This study looked at an outcome behavior that is verbal (talking about) and discovered that knowledge of related outcome and talking about a related behavior may have some effect on another behavior that ends with "talking." This indicates some similarity in both predicting behavior and the outcome, since they are both talk-based (both discussing family planning and "notifying" partner of one's status are essentially "talk" or "verbal" communication activities) Using the "acting" or "doing" predictor may have a different effect than the "talking" predictor and this is borne out by the data and analyses. This may need more exploration and study for sharper and firmer definition. Another implication for transmission of phenomena is that in the "talking" environment, the transmission of information is most active and overt. Thus, encouraging dialogue and creating or supporting/enhancing conducive social, physical and cultural environments for these to occur may have some impact on the transmission of both resiliency and health promoting behavior at individual and group levels. This overt form of communication may be more tailored to specific populations based on their sensitivity to and utility of the "talk" mode. Thus, resiliency information that may be communicated may include health-promoting behavior discussions and communications. This mode of behavior modification may have strong import, when several issues are considered. The issues may include that in "resource poor" environments, being able to talk about and discuss health promoting and resiliency information may be the most easily and readily available as well as least expensive option for promoting health and preventing adverse health outcomes. Thus, encouraging such issues as partner notification may be an effective, non-resource intensive way to reduce STI/HIV transmission and curb the HIV epidemic.

#### Implications for Public Health Practice

The inference that "talking" about a behavior is as, if not more relevant to predicting another behavior as "acting" or "doing", points at a need to be alert to nuances of community needs and the dynamics of social and behavioral epidemiological concerns, which are sensitive to cultural norms. The need to identify these nuances could mean the difference between policy, program or project effectiveness and failure. Also, the impact of such sensitivity may be the catalyst that triggers other health promoting reactions and discussions that may be related to the first issue. This brings up identifying key issues that may serve as "gateway" or "sentinel" issues to other connected ones. The skill, precision and accuracy with which these key gateway/sentinel issues are selected may make the difference for success in program and policy development and impact. Finally, for effective disease prevention and health promotion, calls for an active, pro-active approach

to embedding resiliency paradigms and values in communities. Thus, with parsimonious principles, it may be possible to, on a long-term basis, prepare populations to prevent potentially catastrophic conditions or strengthen their health outcomes for higher quality of life.

Possible future research includes exploring those questions regarding the two threads of behavior namely "talking/verbal" and "doing/non-verbal" or "acting." These areas call for exploration since, in the real world, part of the human solution to problems is to engage in "talking about it." "Talking" has been the way people exchanged vital information, learn new ways to address issues and resolve thorny questions relating to real life. Talking however is sensitive to cultural and social cognitive paradigms. Researching with these paradigms requires high levels of cultural familiarity and competence, which only inclusive approaches to scientific team construction can bring.

Finally, this research points out that more concepts, theories, theoretical models and paradigms are needed that specifically reflect the worldviews of specific populations, without which resources may not have the optimum impact in health promotion and disease prevention.

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