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## The Relationship between Ethnic Identity and Chlamydia and Gonorrhea Infections among Low Income Detained African American Adolescent Females

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### Abstract

This study explored the relationship between ethnic identity and Chlamydia and Gonorrhea infections among detained African American female adolescents. A cross-sectional survey was conducted among 123 African American female adolescents within eight detention facilities in Georgia. Using A-CASI technology, data were collected on demographics, ethnic identity, laboratory confirmed Chlamydia and Gonorrhea, and other known correlates for STIs, such as socioeconomic status, parental monitoring and risky sexual behaviors. Rates of Chlamydia and Gonorrhea testing yielded incidence rates of 25.6% and 5.6% respectively. Findings indicated that controlling for STI correlates, participants who indicated high ethnic identity were 4.3 times more likely to test positive for an STI compared to those scoring low on the measure of ethnic identity.

### Keywords

Ethnic identity; African American females; detainees; STIs

### Introduction

Ethnic identity emanates from that part of the self-concept derived from knowledge of membership in a social group, together with involvement in the group's activities, heritage and customs (Phinney, 2003). Theorists view it as resulting from a developmental process that involves an exploration of the meaning of one's ethnicity (Phinney, 2003). This process starts with an undefined ethnic identity based on external messages through a period of exploration, to a more secure sense of one's self as a member of an ethnic group (Phinney, 2003).

For racial minorities strong ethnic identity is considered to be an important protective factor. In brief, for highly marginalized groups strong ethnic identity may serve as a protective factor by helping racially marginalized groups resist internalizing negative self images and associated risk behaviors based on their racial membership and minority status (Sellers, et al, 2002). Theoretically, social cognitive perspectives (Akers, 2009) and critical race theory underpinnings (Delgado & Stefancic, 2001) provides some support for the relationship between strong ethnic identity and lower risk outcomes.

The buffering hypothesis concerning ethnic identity is one that has gained empirical support across several studies (Marsiglia, Kulis, & Hech, 2001). For instance, strong ethnic identity is documented to be a protective factor with regards to cigarette smoking (Parker et al., 1998), substance use and poor mental health functioning (Caldwell, Zimmerman, Bernat, Sellers, & Notaro, 2002; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Wong, Eccles, Sameroff, 2003), especially for racial minorities (Marsiglia, Kulis, & Hech, 2001).

Colleagues have suggested that researchers examine whether the protective effects of ethnic identity extend within the domain of risky sexual behaviors (Faryna & Morales, 2000). Notably, in 2009 rates of sexually transmitted infections (STIs) among detained adolescent females were disproportionately higher when compared to their community counterparts (Centers for Disease Control, 2012). For example, in 2009 rates of Chlamydia were 49 times higher among detained females (ages 12 to 18) than those found in the general population (Centers for Disease Control, 2012). Similar to the general population, African American females bear the highest burden of STIs compared to their female counterparts (Centers for Disease Control, 2012).

A few studies have examined whether ethnic identity is related to self-reported risk behaviors. However, among these small number of studies, findings have been mixed (Beadnell et al., 2003; Lye, Chng, & Gelia-Vargas, 2000; Townsend, Thomas, Neilands, & Jackson, 2010). For instance, among a sample of mostly adult African American, Latino, Asian/Pacific Islander gay males, no relationship was found between ethnic identity and risky sexual behaviors (Lye, Chng, & Gelia-Vargas, 2000). One study documented that higher ethnic identity was associated with a lower number of unsafe sexual acts during the past four months among African American women (Beadnell et al., 2003), and another study showed that high ethnic identity was associated with lower sexual risk attitudes among African American girls ages 10 to 13 (Belgrave, Van Oss, & Chambers, 2000). In contrast, a recent study found that strong ethnic identity was associated with a greater intention to have sexual intercourse among middle school African American girls (Townsend, Thomas, Neilands, & Jackson, 2010).

Given these mixed findings, the dearth of research in this area, and the fact that current studies have not been conducted among detained African American females who are at highest risk for STIs, further research is warranted. This study expands the existing literature by exploring whether ethnic identity is related to biologically confirmed Chlamydia and Gonorrhea. Prior studies have only examined ethnic identity with regards to sexual attitudes (Belgrave, Van Oss, & Chambers, 2000), intention to have sex (Townsend, Thomas, Neilands, & Jackson, 2010), or self reported risk behaviors (Beadnell et al., 2003; Lye, Chng, & Gelia-Vargas, 2000). Self reported measures of risk have limitations because respondents can under report risk behaviors or have difficulty recalling them accurately across extended time frames (Crosby, DiClemente, Holtgrave, Wingood, 2002). Additionally, we examined this relationship among adolescents, when ethnic identity is especially salient given that youth are individuating from parents and defining their own self concepts (Seaton, Yip, & Sellers, 2009). Prior studies have mostly focused on adults (Beadnell et al., 2003; Lye, Chng, & Gelia-Vargas, 2000) or preteens (Belgrave, Van Oss, &

Chambers, 2000; Townsend, Thomas, Neilands, & Jackson, 2010). Moreover, we focused on detained African American females who have a disproportionately high risk for STI infections, but are largely underrepresented in the extant literature. We examined the relationship between ethnic identity and Chlamydia and Gonorrhea, controlling for other known correlates of STIs such as age, poverty, low parental monitoring, and risky sexual behaviors (Crosby, et al, 2006; DiClemente et al., 2005; Voisin, et al, 2004).

## METHODS

### Participants

A convenience sample was recruited from 8 regional youth detention centers (RYDCs) across the state of Georgia. Adolescents were eligible if they had been detained at least 3 days, were female, 14 to 18 years, had been enrolled in school prior to detention, had been detained at least 3 days, self-identified as African American, had experienced vaginal sex, had a parent or legal guardian who provided informed consent and provided informed assent. Recruitment efforts occurred no more than once each week at each of the eight facilities. Research assistants specifically recruited only newly admitted adolescents. Only adolescents who expressed willingness to participate proceeded in the study. Those who provided assent were informed that the research assistant would also have to contact a parent to obtain informed consent. By agreement with Emory University's IRB, research assistants were permitted to obtain parental/legal guardian consent verbally by phone. Neither participants nor their legal guardians were compensated for study enrollment, and research assistants were permitted to obtain that consent by phone. The IRBs at Emory University and the Georgia Department of Juvenile Justice approved all study procedures. Both IRBs approved all study procedures. The study achieved an 82% participation rate.

All self-reported measures were assessed using audio-computer assisted self-interviewing (A-CASI), based on findings suggesting decreased reporting bias and reduced problems posed by illiteracy compared to paper and pencil approaches (Turner et. al, 1998).

### Measures

**Predictor variable**—Ethnic identity was assessed by the Multigroup Measure of Ethnic Identity (Phinney, 1992) a 23-item scale used to assess this concept (e.g., “I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs,” “I think a lot about how my life will be affected by my ethnic group membership,” “I am active in organizations or social groups that include mostly members of my own ethnic group,” and “I have a strong sense of belonging to my own ethnic group.”). For a full description of the scale see Phinney (1992). All items were measured on a 4-point scale ranging from “strongly disagree” to “strongly agree.” The scale achieved a satisfactory level of inter-item reliability in this study (Cronbach's alpha = .75). This scale has been commonly used to assess ethnic identity in a number of prior studies with African American youth (Yancey, Aneshensel, & Driscoll, 2001; Yancey, Siegel, McDaniel, 2002; Yasui, Dorham, & Dishion, 2004).

**Outcome variable**—Adolescents enrolled into the study provided a first-catch urine specimen for STD testing upon admission to the facility. Specimens were initially tested for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* DNA by ligase chain reaction using the Abbott LCx Probe System (Carroll, Aldeen, & Morrison, 1998). In, 2003, this Abbott assay was discontinued, and we began using the BDProbeTec ET *C. trachomatis* and *N. gonorrhoeae* amplified DNA assay (Becton Dickinson, Sparks, MD; Van der Pol, Ferrero, Buck-Barrington, & Hook, 2001). Participants were given a plastic, preservative-free, sterile urine specimen cup and instructed to obtain the first voided portion of the urinary stream.

Subsequently the research assistant labeled the filled specimen container with the participant's code number and date of collection. Specimens were placed in a transport unit and taken to Emory University for temporary storage in a refrigerator and then (on a periodic basis) specimens were delivered to a laboratory at the Emory University School of Medicine for analyses. Positive laboratory findings were faxed to the project director and subsequently names of infected adolescents were given to medical staff at the appropriate detention facilities, who then provided standard-of-care treatment and reported the cases to the appropriate follow-up.

## Covariates

Age was assessed by one item "What is your age?" Socioeconomic status was assessed by one proxy "Do you qualify for free school lunch? (0= no; 1= yes). Grade level was assessed by one question "What is your grade level?" Parental monitoring prior to being detained was assessed by asking participants to think about the person(s) who were primarily responsible for them (i.e., a parent figure). Next, we presented adolescents with a 6-item scale that assessed frequency of monitoring by the parent figure(s) in the context of the current home environment (Crosby et al., 2006). Response alternatives for all items were provided on a 5-point scale ranging from (1) "never" to (5) "always." (Cronbach's alpha = .85). Risky sexual behaviors in the two months prior to being detained, were assessed by asking participants whether they had engaged in sex without condoms, had sex while high on drugs, had sex with multiple partners, and traded sex for drugs. From these variables, we computed a sexual risk index that ranged from 0 to 4. Epidemiological trends provide evidence that these behavioral risk factors infer high risk for contracting STIs (Centers for Disease Control and Prevention, 2009).

## Statistical Analyses

Univariate analyses described the overall sample. Bivariate analyses examined the relationships between ethnic identity and all covariates. Multicollinearity was not detected among any variables. For descriptive and interpretive purposes, we dichotomized ethnic identity, parental monitoring, and sexual risk behaviors into high and low scores based on their median split. Next, we calculated prevalence ratios, their 95% confidence intervals, and respective *P*-values controlling for all covariates (Hosmer & Lemeshow, 1989). All data were analyzed using SPSS version 18.0.

## Results

### Sample Characteristics

The analytic sample comprised 123 sexually active females who self-identified as African American. The mean age was 15.32 years (SD=.961). The majority of participants (68%) indicated qualifying for free school lunch. Parental monitoring had a distribution with a mean of 23 and median and mode of 22.5 and 22.0 respectively (SD= 5.88) indicating that overall, these African American female adolescent's perceived that their parent or parent figure "often" monitored them. Using the mean, approximately, 57.9% of the overall sample reported relatively high parental monitoring (scores 24 and above). Sexual risk index had a mean, median and mode distribution of 2 (SD= 1.48, range 0 to 7) indicating that overall, this sample engaged in at least two high risk sexual behaviors, and 37% reported low sexual risk behaviors. Prevalence of Chlamydia and Gonorrhea were 22.6% and 4.3% respectively. Due to co-infections 2 participants, a total of 23.5% were classified as having a laboratory-confirmed STI. The ethnic identity scale had a distribution with a mean, median and mode of 28, 27 and 27 respectively (SD= 4.75) suggesting that overall, the sample reported relatively low commitment to or affirmation of African American ethnic identity. Based on

the mean, approximately 46.3% of the sample reported high ethnic identity (scores 21 and above). See Table 1.

## Results

Logistic regression analyses indicated that controlling for known correlates of STIs such as age, socioeconomic status, parental monitoring and HIV sexual risk behaviors, that girls reporting high ethnic identity were 4.3 times more likely to report Gonorrhea and Chlamydia infections (AOR= 4.30; 95% CI = 1.17c15.80). As anticipated, girls who reported high sexual risk behaviors were 1.5 times more likely to test positive for Gonorrhea and Chlamydia compared to peers who reported low sexual risk behaviors (AOR = 4.55; 95% CI = 1.04–2.86). See Table 2.

## Discussion

First, several limitations should be considered when interpreting data from this research. The use of non-probability sampling techniques necessitated by the need to obtain verbal parental consent may have resulted in a less representative sample, which limits the ability to generalize findings to the larger population of detained youth in Georgia, as well as the larger population of detained youth across the country. Future qualitative approaches might assist in unpacking what ethnic identity may represent for broader samples that are more diverse.

Notwithstanding these limitations, this is the first study to examine whether ethnic identity is related to laboratory confirmed STIs and whether this relationship is significant for African American females with a detention history. This preliminary study found that strong ethnic identity was correlated with laboratory confirmed Chlamydia and Gonorrhea among out study participants. Prior research has not consistently shown ethnic identity to be protective. For instance, research has documented that high ethnic was protective with regards to drug use (Belgrave, Van Oss, & Chambers, 2000). However, high ethnic identity has also been found to be a risk factor with regards to intentions to have sex among middle school African American girls (Townsend, Thomas, Neilands, & Jackson, 2010). In this study, researchers found that this relationship was mediated by self-perceptions of beauty (Townsend, Thomas, Neilands, & Jackson, 2010).

Our findings suggest that the interpretation of strong ethnic identity may not necessarily be positive for some youth, especially those who are troubled and more likely to come into contact with juvenile justice programs. It is important to note that a significant portion of our study participants lived in low income and communities. Although we controlled for socioeconomic status and found significant results for ethnic identity above and beyond income, the effects of living in poorly resourced communities and its impact on STIs cannot be overstated. Additionally, longitudinal findings have documented that perceived racial discrimination is linked to negative self-concepts (Seaton, Yip, & Sellers, 2009). Although not assessed in this study, future research should examine whether racial discrimination may influence the relationship between ethnic identity and STIs. Similarly, other researchers have speculated that the inclusion of factors such as self-esteem, attitudes, normative influences, health beliefs and social supports are important to specification of the relationship between ethnic identity and risk outcomes (Beadnell, et al., 2003).

Clearly, more research among females with a history of detention is warranted, and this study represents one such contribution. Although this exploratory study raises several unanswered questions, it provides the basis for future research in this growing body of literature. Additionally, it underscores the importance of providing STI counseling, testing and treatment to detained adolescent females. In summary, overall study findings suggest



that future research should look at the role of ethnic identity as not necessarily protective in the same ways, against overall risk factors, for all persons, and that nuances might exist in such relationships for certain subgroups.

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**Table 1**

## Characteristics of the Sample (N=123)

Variable	Percent
<b>Age</b>	
14	22.9
15	36.6
16	30.1
17	10.6
18	0.8
<b>Socioeconomic Status (Free school lunch)</b>	
No	32.8
Yes	68.0
<b>Parental Monitoring</b>	
Low	42.1
High	57.9
<b>Risky Sexual Behaviors</b>	
Low	37.0
High	63.0
<b>Any Biologically Confirmed STIs</b>	
No	74.8
Yes	23.5
<b>Ethnic Identity</b>	
Low	53.7
High	46.3

**Table 2**

Analyses Measuring the Association between Ethnic Identity and Biologically Confirmed Chlamydia and Gonorrhea (N=123)

Variable	OR	(95% CI) <sup>1</sup>	P
Age	0.95	(0.52, 1.71)	.86
Free School Lunch	0.51	(0.51, 0.14)	.31
Parental Monitoring	0.75	(0.75, 0.21)	.66
HIV Risk Behaviors <sup>2</sup>	1.50	(1.50, 1.04)	.03
Ethnic Identity	4.30	(1.01, 1.30)	.03

<sup>1</sup>95% CI=95% confidence interval

<sup>2</sup>In the two-months prior to being admitted to the detention center