



*A Policy Research Partnership  
to Reduce Youth Substance Use*

**Preliminary Results of:  
The Effect of Community Characteristics  
on the Tobacco Retail Environment**

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## Abstract

**Objective**---This study examines how tobacco advertising, promotions, and cigarette prices vary with community characteristics such as ethnicity, age, and income of its residents.

**Methods**---Data were obtained from communities collected in the Spring and Summer of 1999. The selection of communities was determined by the location of nationally representative school samples of students in three different grade levels (8, 10, and 12) in the United States. For each index school, a catchment area, or community, was defined, reflecting the area from which the school draws the majority of its student population. A list of all likely tobacco retailers located within the specified census blocks was then generated for this area. Information on prices for Marlboro and Newport, promotions, and advertising were extracted from this data set and then matched by census block group to data on population by ethnicity, age, and median income using 1999 estimates from GeoLytics.

**Results**---After adjustments for covariates, preliminary results show significant differences in promotions, interior and exterior advertising, and Marlboro and Newport prices based on ethnicity, age and income of a community's residents.

**Conclusions**---Preliminary results suggest there are differences in tobacco advertising, promotion, and pricing based on a neighborhood's predominant ethnic representation, income level and age of its residents.



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## Methodology

### Store Observation Data

- Random sample of 3,519 tobacco retailers within 193 8th, 10th and 12th grade school communities.
- Observations conducted in 1999 from 2/16 to 6/23 to evaluate levels of tobacco and alcohol advertising, promotions and branded functional objects.

### Community SES Data

- 1999 estimates obtained from GeoLytics, Inc., based on the 1990 Census and estimating local current change via number of currently mailable households.
- Mapped to observed stores at the block group level using FIPS code identification.

### Analysis

- Probit (dichotomous any/none promotion, interior and exterior variables), ordered probit (ordered interior and exterior variables), and ordinary least squares regression (Marlboro and Newport price variables)--adjusting for size of community; store type and size; region; and tax for the price variables--were used to assess what effect ethnicity, age and income have on the tobacco retail environment.



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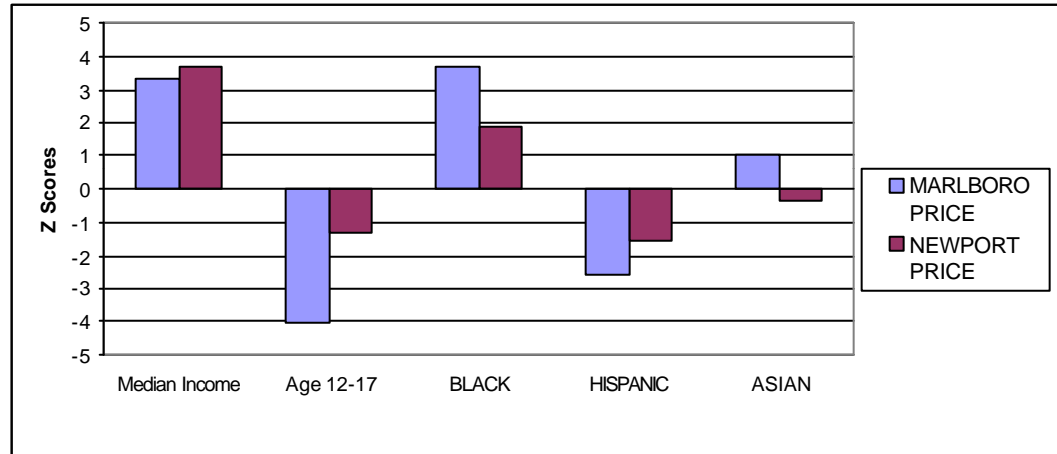
**Table 1: Descriptives of Tobacco Retailers & Community Characteristics**

<b>Variables</b>	<b>N</b>	<b>MEAN/PROP</b>	<b>STD.DEV.</b>	<b>RANGE</b>	<b>Description</b>
Interior (Any/None)	3473	0.78	--	0-1	
Interior (Ordered)	3473	2.02	0.77	1-4	2=Advertising Limited to Sections Where Product Sold
Exterior (Any/None)	3454	0.58	---	0-1	
Exterior (Ordered)	3454	2.13	1.13	1-4	2=Fewer than Five Advertisements
Marlboro Price	1910	2.89	0.47	1.45-4.85	
Newport Price	1100	3.04	0.43	1.75-4.69	
Tobacco Promotions (Any/None)	3465	0.48	---	0-1	
<b>Community SES Indicators</b>					
Percent White	3497	80.87	25.24	0-100	
Percent Black	3497	14.49	25.24	0-100	
Percent Asian	3497	3.19	7.61	0-83.09	
Percent Hispanic	3497	12.16	21.61	0-100	
Percent Age 12-17	3497	8.33	3.70	0-40.66	
Percent Age 18-24	3497	9.20	7.19	0-95.42	
Median Household Income	3497	38,461.26	18,951.63	0-150,000	



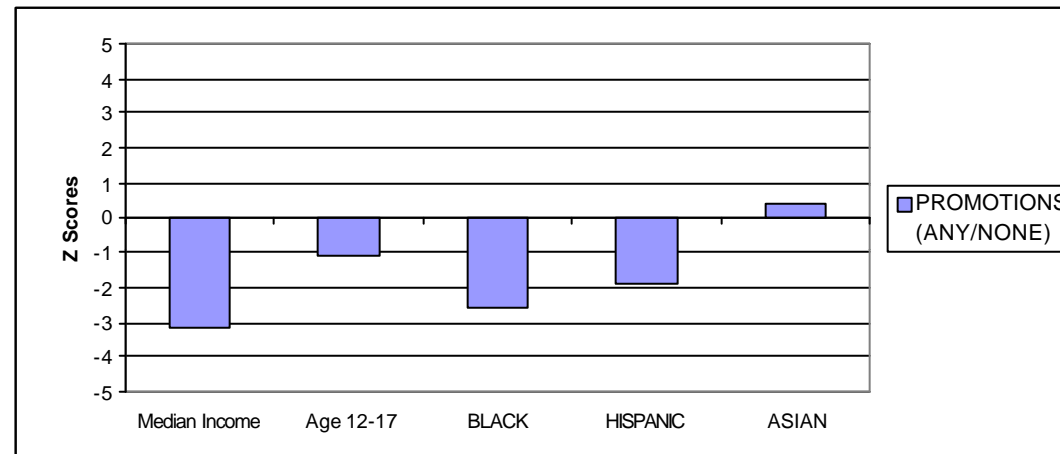
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## Figures 1&2: Pricing and Promotions Preliminary Results



\*Black, Hispanic, and Asian measured against White.

\*Age 12-17 measured against all other ages.

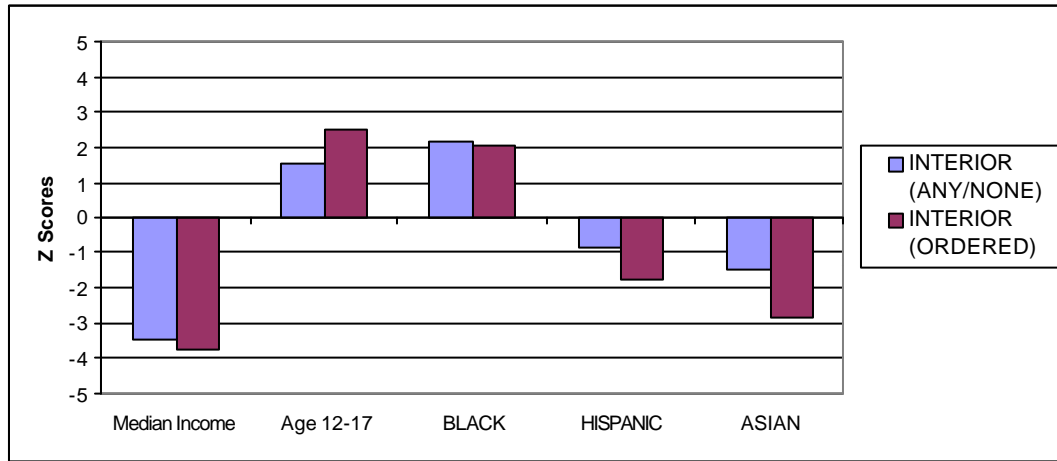


\* Above or below 2 (-2) is significant.

\*\* Positive Z scores reflect direct relationships and negative Z scores reflect inverse relationships.

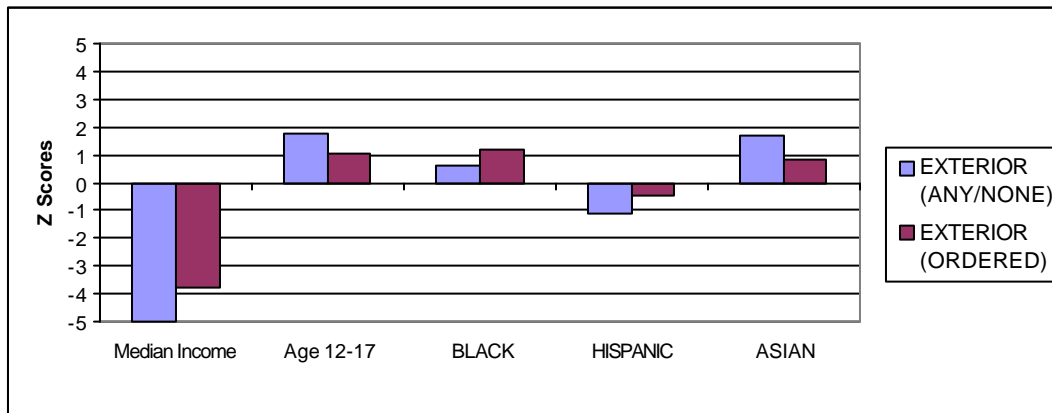
\*\*\* Results controlling for Store type, store size, region, location and tax.

## Figures 3&4: Advertising--Preliminary Results



\*Black, Hispanic, and Asian measured against White.

\*Age 12-17 measured against all other ages.



\* Above or below 2 (-2) is significant.

\*\* Positive Z scores reflect direct relationships and negative Z scores reflect inverse relationships.

\*\*\* Results controlling for Store type, store size, region, and location.

## Summary of Preliminary Results

### ***There were significant changes showing an increase in:***

- Interior advertising (any/none and ordered) in lower income neighborhoods, and those with a higher percentage of African-Americans and youths aged 12-17.
- Exterior advertising (any/none and ordered) in lower income neighborhoods.
- Marlboro price in higher income neighborhoods and those with a higher percentage of African-Americans
- Newport price in higher income neighborhoods and those with a higher percentage of African-Americans.

### ***There were significant Changes showing a decrease in:***

- Interior advertising (ordered) in neighborhoods with a higher percentage of Asians.
- Marlboro price in neighborhoods with with a higher percentage of Hispanics and youths aged 12-17.
- Promotions in higher income neighborhoods and those with a higher percentage of African-Americans and Hispanics.

## Discussion

Preliminary results of this study suggest there are differences in tobacco pricing, promotions, and advertising based on a neighborhood's predominant ethnic representation, income level and age of its residents. Further analyses will explore whether these differences are completely explained by other community characteristics such as size, type of store and region, or if it is other reasons which are causing these variations.



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