ETHNICITY AS MANIFEST IN DRUG-SPECIFIC VOCABULARY AND SUBSEQUENT RISK OF STARTING CANNABIS USE IN EARLY ADOLESCENCE

Holly C. Wilcox, PhD; Carla L. Storr, ScD; Mike Z. Benoit, BA; James C. Anthony, PhD

INTRODUCTION

Several facets of human ethnicity and culture, as manifest in learned behavior, can be measured by asking questions about working vocabulary. To some extent, immersion within an ethnic subgroup can be evaluated in relation to a person’s acquisition and use of words or slang terms specific to that subgroup. These premises are the starting points for the present inquiry. In specific, we wondered whether certain facets of ethnicity, as measured by questions about working vocabulary for drug slang terms, might signal excess risk of subsequent youthful drug involvement.

Cannabis (marijuana) use in the United States now represents the most common form of illegal youthful drug involvement, after alcohol and tobacco use. Based on data from national surveys, in calendar year 2002, about one fifth of 12- to 17-year-old youths in the United States had tried cannabis at least once (20.6%). With respect to health and disease-related consequences of this behavior, among those who first tried cannabis at age 14 or younger, an estimated 13% have developed a persistent and recently active drug dependence syndrome, as compared with 2.8% of those who first used cannabis at age 18 or older.1,2

Our main aim in this study is to estimate the strength of a hypothesized predictive association that links vocabulary acquisition and working knowledge of specific drug slang names with a later increased risk for initiating cannabis use in early adolescence. Early entry and exposure to a drug subculture may account for vocabulary acquisition and a wider knowledge of slang or street terminology associated with drug use.3,4

A drug user’s knowledge of drug jargon is believed to be indicative of the depth of involvement and stage of drug use.5 However, little is known about links from drug slang vocabulary acquisition and later risk of illegal drug use.

According to the Historical Dictionary of American Slang, “Slang is lexical innovation within a particular cultural context.”6 In order for an expression to become slang, it must be widely accepted and adopted by members of a subculture or subgroup. Slang words are created to fill a linguistic need that the current vocabulary does not fulfill and to adequately describe concepts that matter to the subculture members who create slang.7 The main purpose of slang has been described as providing “a vocabulary that indicates one’s inclusion in a particular group or marks some shared experience, and at the same time excludes those who do not belong.”8

Thorne also claims that some of the “most productive sources of new slang are young people, the drugs scene, and Black culture, all of which overlap, of course, to a greater or lesser extent.”8 Over the years, young people have coined many words for cannabis and cannabis use; new slang terms continue to evolve.9

Slang may be more important in some ethnic minority groups, less important to others. For example, verbal communication modes have become quite prominent in African heritage subgroups of the United States. The hip-hop culture and associated styles of dress and slang have been said to be influential, promoting verbal expressiveness of young males especially.10-17 To some extent, these developments intersect with the drug scene and subculture.18

From Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland. Current affiliations: Department of Epidemiology, Michigan State University, East Lansing, Michigan (JA).

Address correspondence and reprint requests to Holly C. Wilcox, PhD; Department of Mental Health; Bloomberg School of Public Health; Johns Hopkins University; 624 N. Broadway, Room 886; Baltimore, MD 21205; 410-502-0629; 410-955-9088 (fax); hwilcox@jhsph.edu

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Early entry and exposure to a drug subculture may account for vocabulary acquisition and a wider knowledge of slang or street terminology associated with drug use.\textsuperscript{3,4}

As early as first grade, boys tend to be more knowledgeable about drugs than girls.\textsuperscript{19,20} Knowledge of drugs and their slang names may be expected to increase as a function of cognitive growth from childhood to adolescence.\textsuperscript{20,21} However, familial, neighborhood, and community-level exposure to information about drugs also can be influential in predicting awareness and knowledge of drug terminology.\textsuperscript{21} Drug-related jargon and drug use practices are often learned through social interactions. Family members and peers may be the most common sources of information about drugs.\textsuperscript{19} More recently, the media has become a more salient vehicle for communications about illegal drug use; these media initiatives now include massive antidrug campaigns. As part of these efforts, one might expect an increase in knowledge of common “newspaper” names, and perhaps awareness of a profile of drug-related dangers, learned as part of prevention messages.

A youth’s working vocabulary of drug slang names also may result from living in certain areas or placing oneself in settings conducive to affiliations or contact with drug users. Youths exposed to drug users may be expected to be more knowledgeable about drug jargon. In addition, hanging out or living near drug dealers or in neighborhood environments with visible street-level drug trafficking may create a greater awareness of street terms for drugs. Each month, noteworthy proportions of US residents, including youths, experience the chance to buy drugs from an illegal drug dealer.\textsuperscript{23-25} Males, residents of urban areas, and those living in areas with greater neighborhood disadvantage seem to be more likely to have a drug purchase opportunity.\textsuperscript{24-27} Children living in cities appear to be more familiar with illegal drugs at early ages.\textsuperscript{20} Rural elementary school students have been found to first become aware of drug slang words as they approach fourth grade.\textsuperscript{28}

In prior studies, we have looked into the first chance to try cannabis in early adolescence through young adulthood.\textsuperscript{26,27,29,30-32} Here, the term cannabis encompasses marijuana and hashish only, which are the major forms of cannabis used within the United States. (Elsewhere, cannabis use may entail smoking hash oil, drinking “bhang,” or other forms of consumption.) In this research, we look more specifically at knowledge of cannabis-specific jargon within an urban community of the United States, with the idea that greater working knowledge of cannabis-specific street vocabulary may signal later increased risk of starting to use cannabis. In this research we consider an idea that the observed excess risk might be attributable to local area environment and we use epidemiologic and biostatistical methods to hold constant these local area characteristics.

The earliest stages of drug involvement might begin even before the first chance to try a drug or the first actual use of the drug. Familiarity with textbook or ‘newspaper’ names might indicate a level of general knowledge only. In contrast, awareness of more exotic street or slang terms may signal higher levels of availability, access, and exposure to peers or others serving as models for social learning, with subsequent increased risk for actual drug use.\textsuperscript{5,33,34} Two clarifications may be helpful. First, our use of the terms ethnicity and culture in this work is in relation to micro-level facets of these constructs that might be observed in the daily lives of our young people or adults. These micro-facets of these constructs can be distinguished from the more macro-facets (eg, when investigators study ethnicity in terms of self-designated or other-designated group membership status). This study is not particularly informative about the macro-facets of ethnicity because our sample is very homogeneous in this respect.

Second, precocious acquisition of slang terms for cannabis or other illegal drugs may serve as signals of breakdown in the nonspecific shielding functions of parental or other societal monitoring and supervision (ie, as a manifestation of failed shielding processes). To the extent that our research approach discloses a predictive association between precocious acquisition of slang terms and subsequent risk of cannabis initiation, the resulting evidence will tend to support the idea that early acquisition of slang is a signal of processes leading toward precocious drug use, perhaps with subsequent increased risk of experiencing one’s first chance to try cannabis. As such, we do not make a claim of a causal linkage. To make statistical adjustments for parent or peer influences would be inappropriate, since these influences might actually be part of the mechanisms accounting for a predictive signal that links early slang use to later risk of cannabis initiation. We return to this topic in our discussion section.

\section*{Methods}

\subsection*{Study Design, Population, and Sample Under Study}

This study builds from a program of epidemiology and prevention research initiated by Professors Sheppard Kellam, James C. Anthony, and their colleagues within the Prevention Research Center of Johns Hopkins University School of Hygiene and Public Health, with a research design and methods as described by Kellam and colleagues,\textsuperscript{35} Kellam and Anthony,\textsuperscript{36} and later collaborators who
joined the research team.37-39 For the purposes of the present investigation, the basic design may be described as a prospective and longitudinal study, with multiple waves of follow-up assessment after initial recruitment of an epidemiologic sample of children as they entered primary school in a single metropolitan area located within the mid-Atlantic region of the United States. The study originated with all first graders enrolled in 19 city public schools who remained in the same public school system between the mid-1980s and 1990s, as described elsewhere.35,36

A total of 1255 youths from these first grade samples completed private and confidential interviews in 1992–1994. At the time of the interview during Spring of 1992, a cannabis history was taken, which included questions about cannabis slang terms. By 1992, a total of 42 youths reported that they already had started to use cannabis. These youths were excluded from this study’s analysis sample because we could not determine which came first, the onset of cannabis use or the acquisition of drug slang terms for cannabis.

The resulting sample consisted of an almost equal proportion of males and females and reflected local area characteristics of youths attending public school. As such, approximately 80% of these youths were African American, <1% were Hispanic, and the remainder were non-Hispanic White, Asian, or Native American, as designated by parental caregivers at the time of school enrollment. The study protocol was reviewed and approved by the cognizant institutional review board for protection of human subjects in research at Johns Hopkins Bloomberg School of Public Health. In addition, a school system ethics review and many principal-teacher-parent meetings reviewed the details of the protocol prior to its implementation.

**Assessments**

Data were collected by standardized, face-to-face, 40- to 90-minute interviews. Interviewers were aged 20–35 years and had completed a 2-week training period. In order to promote and capture honest reporting, the interview was held in a private location within the school (eg, empty office or vacant classroom), and the first part of the session was devoted to developing trust and rapport to encourage disclosure of personal and sensitive information. The interviewer provided assurances that the information would be recorded and handled in a confidential manner. The assurance included an explanation of protections granted in a Certificate of Confidentiality from the federal government.

Each youth’s knowledge of neighborhood slang terms for cannabis was assessed by the following standardized interview item, as administered in 1992: “The next set of questions is about smoking grass or reefer. Sometimes it’s called marijuana, pot, weed, a joint, or a jay. What is it called in your neighborhood?” To increase comprehension of the question, youths were shown a sketch drawn by a local artist; the sketch depicted youths smoking cannabis.

Repeating this question in the Spring of 1992, the youths generated 64 different terms for cannabis, the most popular being marijuana (23%), reefer (14%), weed (13%), pot (13%), joint (11%), and jay (7%), all of which were mentioned in the interview question. Prior to analyses described below, we used the reported cannabis slang to sort the youths into four groups: 1) a group of youths who said they didn’t know any local neighborhood term or who reported a nonsense or idiosyncratic term; 2) youths who reported the generic term marijuana; 3) youths who reported other common terms mentioned in the original standardized interview question: pot, weed, joint, jay, reefer, or grass; and 4) youths who named terms we identified as “specialized” or more exotic street slang, none of which had been mentioned in our survey questions: blunt, roach, herb, Mary Jane.

**RESULTS**

When these 1255 youths were assessed for their knowledge of cannabis slang in Spring 1992, and after excluding 42 youths who had started cannabis use before that assessment, a total of 179 could not name the slang term for cannabis in their neighborhoods or...
Table 1. Sample description and estimated risk of cannabis use

<table>
<thead>
<tr>
<th>Sex</th>
<th>Assessed in 1992 (N=1367)</th>
<th>Assessed in 1993 or 1994 (N=1246)</th>
<th>Cannabis Use (N=119)</th>
<th>Cumulative Incidence of Cannabis Use</th>
<th>RR†</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>663</td>
<td>49</td>
<td>600</td>
<td>48</td>
<td>78</td>
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</tr>
<tr>
<td>Female</td>
<td>704</td>
<td>51</td>
<td>646</td>
<td>52</td>
<td>41</td>
<td>34</td>
<td>0.06</td>
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<tr>
<td>Age in 1992</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>11</td>
<td>411</td>
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<td>634</td>
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<td>579</td>
<td>46</td>
<td>56</td>
<td>47</td>
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<tr>
<td>13</td>
<td>294</td>
<td>22</td>
<td>266</td>
<td>21</td>
<td>16</td>
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<td>28</td>
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<td>20</td>
<td>2</td>
<td>4</td>
<td>3</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Minority</td>
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<td>80</td>
<td>1,007</td>
<td>81</td>
<td>92</td>
<td>77</td>
<td>0.09</td>
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<tr>
<td>Nonminority</td>
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<td>239</td>
<td>19</td>
<td>27</td>
<td>23</td>
<td>0.12</td>
</tr>
<tr>
<td>Marijuana terms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None, don't know, nonsense</td>
<td>174</td>
<td>13</td>
<td>177</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>0.07</td>
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<tr>
<td>Marijuana</td>
<td>262</td>
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<td>265</td>
<td>21</td>
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<td>15</td>
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<tr>
<td>Pot, joint, grass, weed, reefer, jay</td>
<td>756</td>
<td>55</td>
<td>755</td>
<td>61</td>
<td>80</td>
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<td>Specialized street slang*</td>
<td>14</td>
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<td>14</td>
<td>1</td>
<td>5</td>
<td>4</td>
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<td>Missing data on marijuana term</td>
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<td>8</td>
<td>35</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>0.20</td>
</tr>
</tbody>
</table>

* Specialized street slang: Mary Jane, blunt, roach, herb.
† Relative risk estimates are not adjusted for covariates (sex, age, and race), but are based on models that include a term for year of followup. Adjusted estimates are presented in the text. Estimation of relative risk is via GLM/GEE modeling.
‡ Cumulative incidence estimates are shown, based upon followup assessments.

named an idiosyncratic term; 281 reported that marijuana was the term; 716 named one of the more common terms for cannabis that had been mentioned in the slang stimulus-question; 17 named one of the more rare terms for cannabis that might signify a greater familiarity with subcultures of cannabis use (eg, “blunts”); 20 youths were missing data on the cannabis term. Based upon follow-up assessments in 1993 and 1994, a total of 119 youths initiated cannabis use after the Spring 1992 assessment of knowledge of cannabis slang terms—roughly 10% of the follow-up sample.

Males were more likely to become cannabis initiates, as were older youths (Table 1). In contrast with youths who did not name neighborhood terms for cannabis, youths who used terms such as blunts, Mary Jane, roach, and herb were an estimated 11 times more likely to start using cannabis by the time of the follow-up assessment. The relative risk estimate did not change appreciably with statistical adjustment for age, race-ethnicity subgroup, and sex (relative risk [RR]=12.4; 95% confidence interval [CI]=3.6–42.8; P<.001). The confidence intervals for specialized drug slang terms are broad because the numbers in our slang subgroups tend to be small.

In light of recent reports on neighborhood and school-level determinants of drug involvement, some readers may wish to know about results based on local area matching, which constrains socially shared characteristics of the neighborhood environment that might yield upwardly biased estimates of this type of association, as well as results when parent and peer influences are taken into account. For example, street-level availability of cannabis is a macro-level influence on risk of cannabis use but is difficult to measure; however, cannabis availability and other socially shared area characteristics can be held constant if we match on the local school attended by the youths. When we matched on the school attended in 1992 and used the conditional form of logistic regression to re-estimate this association, we found a relative risk estimate of 9.9 in the contrast involving specialized drug slang (95% CI=2.7–35.9; P=.001). In a more elaborate model that also adjusted for parent’s legal and illegal drug use, free or subsidized lunch status, first grade level of aggression, parental monitoring, and deviant and drug using peers, the estimate was modestly attenuated (RR=8.6; 95% CI=2.1–34.6; P=.002); the corresponding estimate from unconditional logistic regression was 12.2 (P<.001). The relative risk estimate for the more common slang terms was 1.7 (95% CI=0.9–3.3; P=.120); the corresponding estimate from unconditional logistic regression was 2.1 (P=.025). Exclusion of Hispanics, Asians, and American Indian youths did not change the estimates to any noteworthy extent, nor did grouping of these youths with non-Hispanic White youths.
The main finding of this study . . . is that knowledge of specialized or exotic street slang terms for cannabis signaled a markedly increased risk for subsequent initiation of cannabis use . . .

**DISCUSSION**

The main finding of this study of urban youths in early adolescence is that knowledge of specialized or exotic street slang terms for cannabis signaled a markedly increased risk for subsequent initiation of cannabis use, more so than knowledge and recognition of more common slang terms. Lest some readers think that knowledge of slang terms can serve as a screening test for risk of starting to use cannabis, we note that the positive predictive value of specialized slang term knowledge was only 9%; most youths who knew these terms in spring 1992 did not initiate cannabis use by 1993 or 1994.

In our analyses, we re-approached the estimation of the predictive association between use of slang terms for cannabis and the risk of initiating cannabis use, with epidemiologic and biostatistical maneuvers that hold constant neighborhood influences and with covariate adjustments for parent and peer influences. In these analyses, the original study estimates were modestly attenuated. Nevertheless, a statistically significant signal remained ($P<.05$) that use of the more exotic cannabis slang terms helped to predict risk of cannabis smoking in later years. In a discussion of this analysis, we must stress that this approach to analysis most likely is based on a mis-specified model, in that we suspect that working slang vocabulary is heavily influenced by neighborhood, parent, and peer influences. That is, the youths must learn the slang from some source, and that source might be in the neighborhood (eg, street-level dealers), within the peer groups (eg, friends who use cannabis), or even within the family (eg, parents or siblings who use cannabis). In this context, when the task is to predict occurrence of cannabis smoking on the basis of prior knowledge of exotic slang terms for cannabis, we suspect that the model is mis-specified if we include covariate or other adjustments for neighborhood, parent, or peer influences. Nonetheless, some readers may be interested to know that the observed relationships are robust even when we have held constant these other domains of influence.

Before we discuss this evidence in relation to its implications, a few limitations deserve mention. First, this study sample was from an urban area within the mid-Atlantic region of the United States, and is limited to pupils who remained in the public school system; generalizability of reports beyond this sample requires replication elsewhere. The direct comparability of this study with other research on this topic is restricted by our focus on early initiation of cannabis use in a sample of youths during the early 1990s. Additionally, street drug terms can change over time.

The data are based on self-report. Self-report data are subject to recall bias, reporting errors, and biases associated with socially desirable responding. Our open-ended question may have favored children with high verbal ability or those with cannabis-influencing personality characteristics (eg, openness to experience). In large epidemiologic studies with longitudinal assessments each year, methods other than self-report do not seem feasible. At ages as young as 12 or 13 years, when cannabis use is relatively infrequent, bioassay methods to verify use are not practical. The number of falsely positive results might exceed the number of true positives.

One possibility is that in spring 1992 some cannabis-using youths were willing to name slang but were unwilling to admit concurrent cannabis use until they were older. As time passed, they might have become more willing to report cannabis use as well. Bioassays will be needed to rule out this possible explanation for the observed findings, which would imply that knowledge of drug slang is a correlate or concomitant of cannabis use, without being an over-time predictor of risk to start cannabis use.

Notwithstanding limitations such as these, this study has strengths that merit attention. The prospective nature of this study and its population base allowed us to specify temporal sequencing of slang term knowledge prior to onset of cannabis use as best we could measure it. Prospectively gathered data over a relatively short span of follow-up time help to place limits on recall bias and misclassification errors. The epidemiologic sampling is important; self-selected or “snowball” samples might induce social sharing of slang terms as well as drug-seeking practices.

In conclusion, our study evidence may stimulate new research and insights into the processes by which a specific micro-facet of ethnicity, the acquisition of drug slang vocabulary, might signal increased risk of initiating cannabis use in early adolescence. Knowledge of these terms is gained in the process of socialization and cultural experiences; they are learned through social interactions. To the extent that vocabulary and word use are manifestations of ethnicity and culture, the words used by youth when they talk about illegal drugs may help us predict and understand future drug using behavior.

As mentioned in our introduction, the observed predictive association between knowledge of exotic cannabis slang names and risk of initiating cannabis use in adolescence may signal a breakdown in the nonspecific shielding processes that ordinarily might function
to delay early exposure to the first chance to try cannabis and to delay actual onset of cannabis use. We will need more research to assess whether the observed association is a sign of a breakdown in the nonspecific shielding processes, a breakdown in the nonspecific resistance-strengthening process, or something else. In this future research, estimating the combined interdependent or statistically independent influences that lead to early acquisition of exotic cannabis slang terms might be possible; this acquisition may be due to a complex cascade of events, such as the breakdown of parental supervision, followed by an increase in level of affiliation with deviant peers, as outlined recently.\(^4\)\(^5\) Clarification of these pathways will require multi-wave longitudinal studies with informative samples and more deliberate measurement of slang vocabulary acquisition processes.

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**REFERENCES**


**AUTHOR CONTRIBUTIONS**

*Design and concept of study:* Wilcox, Storr, Anthony

*Acquisition of data:* Anthony

*Data analysis and interpretation:* Wilcox, Storr, Benoit, Anthony

*Manuscript draft:* Wilcox, Storr, Benoit, Anthony

*Statistical expertise:* Wilcox, Anthony

*Acquisition of funding:* Anthony

*Administrative, technical, or material assistance:* Wilcox, Benoit, Anthony

*Supervision:* Wilcox, Storr, Anthony