Published in final edited form as:

Crime Delinq. 2009 October ; 55(4): 600–626.

Evidence for Connections Between Prosecutor-Reported Marijuana Case Dispositions and Community Youth Marijuana-Related Attitudes and Behaviors

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Abstract

This article examines relationships between local drug policy (as represented by prosecutor-reported case outcomes for first-offender juvenile marijuana possession cases) and youth self-reported marijuana use, perceived risk, and disapproval. Interviews with prosecutors and surveys of 8th-, 10th-, and 12th-grade students in the United States were conducted in 2000. Analyses include data from 97 prosecutors and students from 127 schools in 40 states. Results indicate significant relationships between local drug policy and youth marijuana use and attitudes. In general, more-severe dispositions are associated with less marijuana use, higher disapproval rates, and increased perceptions of great risk. Associations primarily appear to be specific to marijuana-related outcomes. Results are discussed within the framework of both deterrence and broader social norms regarding substance use.

Keywords

marijuana; drug policy; prosecutor; prosecutorial discretion; juvenile

To say that the relationship between policy and substance use is complex and multidimensional is clearly an understatement. Policy is debated and created at international, national, state, and community levels. Confounding issues of implementation, enforcement, substance availability and potency, local economic incentives or disincentives, conflict

between macro and mezzo policy directions, and a myriad of other factors all relate to the possible success or failure of the stated goals of drug policy: to reduce the economic, personal, and social harms associated with drug use by preventing drug use, providing treatment, and disrupting the illicit drug market (White House, 2006).

Comparisons and critiques of substance policy often focus on international and national levels (e.g., Berndt, 2003; Chatwin, 2003; Hall, 2001; Marwick, 1995; White, 2002). However, most recent developments in drug policy in the United States have originated at state and community levels. Research has documented not only significant between-state variance in substance policy (e.g., Alcohol Epidemiology Program, 2000; ImpacTeen Illicit Drug Team, 2002) but also the ability of states to react relatively quickly to new trends and issues in substance use. Most recently, relative to illicit drug use, new state policy initiatives have focused on medical marijuana (Pacula, Chiqui, Reichmann, & Terry-McElrath, 2002), diversion programming (Colker, 2004; VanderWaal, Chiqui, Bishop, McBride, & Longshore, 2006), and methamphetamine (Boulard, 2005; O'Connor, Chiqui, & McBride, 2006). Little is known about the possible relationships between state or community drug policy variance and substance use at the community level. Available research on community-level juvenile substance policy has documented significant differences by substance and community sociodemographics in terms of access to treatment and adjudication severity (Terry-McElrath et al., 2005; Terry-McElrath & McBride, 2004).

Given these documented differences in drug policy at the local level, a logical next step would be to examine relationships between implementation of local community policy and local substance use rates and perceptions about use. The most detailed and reliable method of such research would involve obtaining actual case records for a variety of jurisdictions across the United States. However, such an undertaking would be very costly. An alternative method would be to utilize typical case outcomes as reported by prosecutors in a variety of communities across the United States. This article utilizes the latter approach. The analyses presented in this article take an initial step toward understanding how local policy focused on juvenile marijuana possession offenses (as reported by local prosecutors) relates to marijuana use behaviors and attitudes reported by nationally representative samples of 8th-, 10th-, and 12th-grade students.

The Prosecutor: Power and Discretion

The role of the prosecutor in the U.S. justice system has evolved into one of significant discretionary power. From the beginning of the American legal system, prosecutors have embodied the concept of "local representation applying local standards to the enforcement of essentially local laws" (Jacoby, 1980, p. 38). To begin with, the office of the local prosecutor is an elected one; thus, the office can arguably be viewed as representing dominant community reactions to deviant behavior (Bridges, Crutchfield, & Simpson, 1987). In addition, prosecutors work within state-specific law and related policy environments. State policy related to marijuana currently exhibits significant variation across states, including decriminalization of low-level marijuana possession offenses (Pacula et al., 2005), diversion programming availability (VanderWaal et al., 2006), scheduling and statutory penalties (ImpacTeen Illicit Drug Team, 2002), and medical marijuana legislation (Pacula et al., 2002).

Within such state-specific environments, prosecutors generally control which cases are selected for prosecution, which specific charges are filed, and what decisions to make about diversion programming and plea bargaining, and they significantly affect sentencing options and outcomes (Backstrom, 2000; Inciardi, 2002; Kautt, 2002; Misner, 1996). Such decisions are essentially unreviewable and rarely challenged and sit solely with the prosecutor

(Misner, 1996). Prosecutorial discretion is present in both the adult and the juvenile court systems. During the late 1970s, increasing crime rates caused many state legislatures to pass laws considerably restricting judicial discretion within the adult court system, replacing it with mandatory sentencing laws (McBride, VanderWaal, Pacula, Terry-McElrath, & Chriqui, 2002). Co-occurring with the decline of judicial discretion was a strong increase in prosecutorial discretion in juvenile cases as stipulated in state juvenile codes. Prosecutors became key players in intake decisions (with referrals flowing either from police to intake officer to prosecutor or directly from police to prosecutor), wielding the ability to choose to initiate proceedings in either juvenile or criminal court (Bishop, Frazier, & Henretta, 1989; Rubin, 1980). Indeed, there are those who argue that prosecutors now dominate juvenile court proceedings (Bartollas, 2006).

Juvenile substance offenders make up a significant part of juvenile case loads across the United States. In 1999, 57% of all juvenile delinquency cases were formally processed; drug offense cases were the most likely to result in formal processing (Puzzanchera, Stahl, Finnegan, Tierney, & Snyder, 2003). Juvenile drug offense cases are likely to result in a broad range of sentencing outcomes. In 1996, 13% of juvenile drug offenses resulted in some form of detention, and 16% of such cases in 1999 were waived to criminal court (Puzzanchera et al., 2003). These facts, together with both the overtly stated rehabilitative philosophy of the juvenile court system (McBride, VanderWaal, Terry, & Van Buren, 1999) and the even higher levels of discretion found in the juvenile system than in the adult court system (Frazier, Bishop, & Henretta, 1992; Hagan, 1989; Leiber & Stairs, 1999; Sampson & Laub, 1993; Tomkins, 1990), provide a unique environment in which to explore differences in local youth substance use rates by substance policy variation.

Why Investigate the Role of Local Policy and Marijuana Use?

Marijuana was chosen for study because (a) in all locations across the United States, marijuana is an illicit substance, and penalties exist (to varying degrees) in all states relative to its possession, sale, and use (ImpacTeen Illicit Drug Team, 2002); (b) a substantial number of 8th, 10th, and 12th graders report using marijuana (Johnston, O'Malley, Bachman, & Schulenberg, 2005), thus allowing for a reasonable ability to detect relationships with variance in local policy; (c) marijuana plays a significant role in juvenile case loads for prosecutors, with possession cases strongly outweighing sales (Dorsey, Zawitz, & Middleton, 2005); and (d) a clear majority of adolescent treatment admissions from criminal justice referrals are marijuana related (Substance Abuse and Mental Health Services Administration, 2003).

In regard to marijuana policy implementation at the local level, research suggests not only that variation exists but that there are important community sociodemographic relationships with policy as well as access to treatment and overall adjudication severity. Research based on an exploratory nonrepresentative sample of prosecutors in 135 communities across the United States reporting on outcomes for first-offender juvenile possession cases found that although diversion for marijuana possession was almost universally available, only 59% of sampled prosecutors reported usually or always using such programming for first-time offenders (Terry-McElrath et al., 2005; Terry-McElrath & McBride, 2004). Just under one quarter reported usually or always using juvenile drug courts (where available); 10% reported usually or always waiving such cases to criminal court. In regard to traditional juvenile court adjudications, 27% reported some form of minimal response (mediation, restitution, community service, fine, informal/voluntary probation) as the most frequent and most severe adjudication, 51% reported court-ordered probation with or without treatment, and 22% reported some type of out-of-home placement. Findings on variation in reported case outcomes were significantly affected by community sociodemographics of predominant

community race/ethnicity, community income, and region of the United States. Thus, comparing attitudes and behaviors related to marijuana use with prosecutor-reported case outcomes for first-time juvenile marijuana possession offenders provides an excellent starting point to examine local policy-behavior relationships.

Little research has been undertaken to evaluate the relationships between differences in policy implementation and marijuana-related behavior outcomes. Evaluation research indicates that diversion programming may indeed result in more individuals receiving and completing treatment and may help reduce state spending (Colker, 2004; Hser et al., 2003). One examination of the effects of California's medical marijuana law on marijuana-related behaviors and attitudes among youth and young adults showed an increase in perceived low risk in using marijuana once or twice per week; however, there was no overall change in marijuana use rates relative to the implementation of the law (Khatapoush & Hallfors, 2004).

Some research has focused on perceived legal consequences versus an evaluation of any specific policy or use of sentencing/adjudication data. A cross-sectional study of Canadian youth found no evidence that perceived legal consequences were related to individual marijuana use decisions (Goodstadt, Chan, Sheppard, & Cleve, 1986). In contrast, a study of high-risk California youth found that the most common reason given for marijuana cessation was to avoid legal consequences (Weiner, Sussman, McCuller, & Lichtman, 1999).

Given the need for additional related research, this article explores three specific research questions related to youth marijuana-related beliefs and behaviors and prosecutor-reported typical case outcomes for first-offender juvenile marijuana possession offenders: (a) How do marijuana-related outcomes among secondary students relate to two methods of case processing outside the traditional juvenile court system: diversion and waiver to adult criminal court? (b) How do such outcomes relate to case processing within the juvenile court system? (c) Is there evidence that such relationships (if any) are substance-policy specific, or do they reflect general community norms surrounding all substance use?

Method

Sample and Data Collection

Data for this study were collected in 2000 from two sources: (a) in-school self-reported questionnaire data from 8th-, 10th-, and 12th-grade students participating in the nationally representative Monitoring the Future (MTF) study sponsored by the National Institute on Drug Abuse, and (b) telephone key-informant interviews with prosecutors with jurisdiction over juvenile cases for the communities surrounding the sampled schools, with data collected as part of the ImpacTeen Project supported by the Robert Wood Johnson Foundation. Detailed information on study sampling and related procedures for the MTF study can be found in Bachman, Johnston, O'Malley, and Schulenberg (2006) and Johnston et al. (2005); similar information on the processes for collecting and coding the prosecutorial data can be found in Terry-McElrath and McBride (2004) and Terry-McElrath et al. (2005). Briefly, the sample for the study included 173 public schools (and their surrounding communities) in their second year of participation with the MTF study, for a total of 19,933 students. The average response rate for the MTF study in 2000 (combining grades) was 86%, with absenteeism accounting for the majority of nonresponses. Interviews were completed with at least one eligible prosecutorial respondent in 135 of the 173 total communities, for a 78% response rate. Nonresponse resulted from either refusals or an inability to contact an appropriate respondent. Comparisons of communities with and without completed interviews showed no significant differences for any marijuana outcome

measures or independent controls other than student income (which was significantly lower in communities with completed interviews, $p < .01$).

Independent Variables

Independent variables were chosen that would cover a range of case outcomes and theoretical approaches to juvenile delinquency: (a) frequency of use of diversion to drug treatment (representing a public health approach to drug policy; Des Jarlais, 2000), (b) frequency of waiver to criminal court (representing a strong deterrence/prohibitionist policy; Weiner et al., 1999), and (c) overall severity of case outcomes within the juvenile court system, ranging from fines and community service through probation and placement in a juvenile facility (Terry-McElrath et al., 2005). In addition, two separate variables exploring the lower end of adjudication severity within the juvenile court system were retained: (d) frequency of use of fine, and (e) frequency of use of community service. For diversion programming, prosecutors were asked, "Does your jurisdiction have a formal diversion program for juvenile marijuana possession offenders, where instead of being prosecuted, they are sent to some type of treatment program?" If so, prosecutors were asked, "How often are juveniles processed through diversion for marijuana possession when the juvenile has no prior record of adjudications or convictions for any offense?" Response categories included 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *usually*, and 5 = *always*. For formal processing items (both waiver to criminal court and juvenile justice case processing), prosecutors were asked to consider only outcomes "for minors with no prior adjudications or convictions." Respondents were asked, "Does the standard or presumptive sentence for marijuana possession by minors differ from the mandated minimum sentences?" If they answered either that sentencing did differ or that mandated minimums were not in place, they were asked about the frequency of using each of nine disposition alternatives for each offense: (a) sent to drug court; (b) waived to criminal court; (c) given placement in detention, a residential facility, or other out-of-home placement; (d) given informal or voluntary probation; (e) given court-ordered probation with mental health or other treatment services; (f) given court-ordered probation without treatment services; (g) given home detention; (h) given a fine; (i) given community service; (j) given victim-offender mediation, restitution, or victim services; and (k) dismissed or released. Response categories ranged from 1 (*never*) to 5 (*always*).

As described in Terry-McElrath et al. (2005), prosecutor responses about alternatives that fell within the juvenile court system (items c-k) were grouped into four individual disposition severity levels: Level 1, dismissal; Level 2, minimal reaction (informal probation, fine, community service, mediation); Level 3, community-based corrections (court-ordered probation with or without treatment, home detention); and Level 4, placement. Respondents were then assigned an overall disposition severity level (ODSL) value according to the number of the individual disposition severity level that (a) was used most frequently and (b) was the most severe. Thus, the ODSL value is based on a conceptual framework that examines sentencing alternatives by degree of infringement on personal freedoms, ranging from dismissal to placement.

Dependent Variables

The primary dependent variables examined in the analyses were marijuana use and attitudes regarding marijuana use. Two items (lifetime prevalence and past-12-month prevalence) were used to measure marijuana use: "On how many occasions (if any) have you used marijuana (grass, pot) or hashish (hash, hash oil) in your lifetime and during the past 12 months?" Response options were 1 = 0 occasions, 2 = 1–2 occasions, 3 = 3–5 occasions, 4 = 6–9 occasions, 5 = 10–19 occasions, 6 = 20–39 occasions, and 7 = 40 or more. Any/none recodes were created for both lifetime and past-12-month prevalence. Measures were also

used to examine perceived risk and personal disapproval of marijuana use. Perceived risk items were based on the following question: “How much do you think people risk harming themselves (physically or in other ways) if they smoke marijuana occasionally and if they smoke marijuana regularly”? Response categories included 1 = *no risk*, 2 = *slight risk*, 3 = *moderate risk*, and 4 = *great risk*. Values were recoded such that 1 = *great risk* and 0 = *other*. Disapproval of marijuana was measured using the following question: “Do YOU disapprove of people (who are 18 or older) doing each of the following? Smoking marijuana occasionally; smoking marijuana regularly.” Response categories included 1 = *don’t disapprove*, 2 = *disapprove*, and 3 = *strongly disapprove*. Values were recoded such that 1 = *any disapproval* and 0 = *no disapproval*.

As noted previously, one of the research questions to be examined focused on whether observed relationships between policy and behavior are substance specific. That is, did the data indicate that prosecutor-reported marijuana policies were related just to marijuana use and attitudes, or did the data actually indicate relationships with other substances as well, possibly reflecting simply general community behavior and perceptions? To examine this question, items on alcohol use and cigarette smoking were included. “Any/none” prevalence measures were created for past-12-month alcohol use and past-30-day alcohol use (the questionnaire specified more than just a few sips). In addition, a prevalence measure was included for binge drinking (defined as having five or more drinks in a row) within the past 2 weeks. Both 30-day smoking prevalence and consumption were created from the same item, “How frequently have you smoked cigarettes during the past 30 days?” Response categories included 1 = *not at all*, 2 = *less than one cigarette per day*, 3 = *one to five cigarettes per day*, 4 = *about half a pack per day*, 5 = *about one pack per day*, 6 = *about one and a half packs per day*, and 7 = *two packs or more per day*. An “any/none” cigarette smoking prevalence measure was created for past-30-day smoking, and consumption among individuals reporting any current smoking was created by recoding responses into .5, 3, 10, 20, 30, and 40. Given the skewed nature of the consumption outcome, the natural log of the resulting values was used in all analyses.

Control Variables

It is well documented that critical individual sociodemographic factors consistently and significantly correlate with marijuana use (Bachman, Johnston, & O’Malley, 1998; Brown, Schulenberg, Bachman, O’Malley, & Johnston, 2001; Delva et al., 2005; Wallace & Bachman, 1991). Peer, school, and neighborhood factors also play a role (Brook, Nomura, & Cohen, 1989). Consistent with such research, a broad array of student sociodemographic control variables were included in the analyses. These were obtained from the MTF data and included gender, race/ethnicity, presence of both parents in the household, grade, total weekly income (earned and from other sources), grade point average (GPA), whether students reported being out three or more nights per week for fun and/or recreation, any past-4-week truancy, and a variable indicating whether one or both parents had at least a college education. Initial analyses also included community sociodemographic variables found to relate to prosecutor-reported case variance (Terry-McElrath & McBride, 2004): predominant community race/ethnicity, proportion of the community between 12 and 17 years old, population density, average community median household income, and region of the United States. However, only region showed indications of significance in relating to student-level marijuana behavior and attitude outcomes in models including only student and community sociodemographics; thus, out of the original listing of community sociodemographic variables, only region was retained in final models.

Analyses

Analyses were conducted in Stata v.9.2, utilizing both logistic and ordinary least squares regression models as appropriate. The data were examined for the possibility of using a generalized ordered logit (GOL) model with the original ordinal outcomes for marijuana use (seven-level outcomes), perceived risk (four-level outcomes), and perceived disapproval (three-level outcomes). Cell size limitations precluded the use of GOL with the majority of prosecutor predictors and marijuana use outcomes; however, such models were possible for frequency of using diversion and overall disposition severity. Furthermore, GOL models were used to examine risk and disapproval models with all prosecutor predictors. No substantive differences were observed between the results from the GOL and those from the logistic models. As multivariate logistic models are easier to present and easier for most readers to comprehend, this article presents results from the logistic models.

All models included weights to account for the multistage MTF sampling procedures, and data were clustered by state. State clustering was considered essential as prior research has shown significant between-state variation in juvenile correctional practices (Krisberg, Litsky, & Schwartz, 1984), and analyses under way indicate significant relationships between prosecutor-reported outcomes and state statutory law (Chriqui, Terry-McElrath, McBride, & Bates, in preparation). Consideration was given to the possibility of conducting three-level models linking state policy, local prosecutorial practices, and student marijuana use/attitudes; however, with 1 year of data, adequate cluster sizes within state strata were not present. Models were run with school clustering; however, results did not differ substantively from state-level cluster models. Thus, reported results employed clustering at the state level. Models were initially run with only control variables (with model *Ns* limited to those obtained when prosecutor-reported independent predictors were also included). Following this, prosecutor predictors were added, and the results were compared with the initial models to examine whether the addition of local policy improved model fit.

Findings

Sample Characteristics

Analyses used list-wise deletion of missing data. After removing cases without valid data on any of the control variables, as well as cases without valid responses for (a) at least one of the marijuana, alcohol, or cigarette outcomes and (b) at least one of the prosecutorial predictor variables, a total of 11,111 cases remained for analysis. Missing data were of four types: (a) prosecutorial survey nonresponse, (b) prosecutorial item nonresponse, (c) item nonresponse because of different forms used in the MTF survey, and (d) student item nonresponse from students who should have responded. As noted earlier, no evidence of systematic differences was found when community sociodemographics for sites with and without prosecutor surveys were compared. For the current analyses, prosecutor and community sociodemographic data were aggregated to the school level to look for indications of significant differences by prosecutorial item nonresponse on all five of the included prosecutorial independent variables. Results showed no significant differences by prosecutorial jurisdiction or juvenile case load. Further, no differences were observed for White or Hispanic population distribution, population density, population between 12 and 17 years old, or community median household income. However, the amount of missing data for the frequency of using diversion was higher in communities with above-national-average African American population (33% vs. 18%, $p < .05$). Missing data were also more likely for overall disposition severity and frequency of criminal court waiver for Western U.S. communities (34% vs. 17%; 36% vs. 16%, respectively, $p < .01$).

Missing data also occurred as a result of the multiform nature of the MTF survey. To address the wide variety of topics in the MTF study, four questionnaire forms are used for 8th and 10th grades, and six forms are utilized for 12th grade (forms are distributed in a random sequence within classrooms, resulting in virtually identical random subsamples for all forms; Johnston et al., 2005). Marijuana, alcohol, and cigarette use outcomes were included on all questionnaire forms for all grades. Perceived disapproval of marijuana was included on all 8th- and 10th-grade forms but on only two of the six 12th-grade forms. Perceived risk of marijuana use was included on all 8th- and 10th-grade forms but on only one of the six 12th-grade forms. Missing data stemming from student item nonresponse was negligible.

Cases retained for analysis represented a total of 127 schools in 40 states, with prosecutorial data provided by 97 prosecutors. Regarding prosecutorial jurisdiction, 85% of sampled youth were in the jurisdiction of prosecutors reporting county jurisdiction; 9%, state or region; and the remaining 6%, city/town/township jurisdiction. Prosecutors reported an average caseload of 31 cases (range = 1–400). An average of 3.2 schools per state were found (range = 1–15), mean prosecutors per state = 2.4 (range = 1–10), and mean schools per prosecutor = 1.3 (range = 1–4). These distributions again supported the decision to cluster the data by state rather than by either school or prosecutor, given the limitations of only 1 year of data. Table 1 provides a description of all variables used in the analyses. As noted previously, community sociodemographics were examined for evidence of significance in relation to student marijuana-related attitudes and behaviors in models containing both student- and community-level sociodemographics. Although those models did not show significance for the following community sociodemographic variables (and thus they were not included in later models), here is a brief description of the characteristics based on the percentage of sampled youth: 56% resided in communities with above-national-average White population, 70% in urban/suburban communities (vs. town/rural), 54% in communities with above-national-average populations between 12 and 17 years old, and 58% in communities with above-national-average community median household income.

Results of Multivariate Models With Marijuana Outcomes

Student-only models—Results from initial models including only student sociodemographic control variables supported prior research findings (e.g., Bachman et al., 1998; Brown et al., 2001; Delva et al., 2005; Johnston et al., 2005; Schulenberg et al., 2005; Wallace & Bachman, 1991). Although the data will not be fully presented because of space limitations, the following variables were significantly (with $p < .05$ or lower) and positively related to increased marijuana use, as well as significantly and negatively related to perceived risk and/or disapproval: male, income, nights out, and truancy. In contrast, being African American (compared with White), in 8th grade (vs. 12th grade), living with both parents in the household, and having a higher GPA were significantly and inversely related to marijuana use and positively related to perceived risk and/or disapproval. Region of the United States showed significance only in perceived great risk of occasional marijuana use, with significantly lower odds for students in the West compared with the South.

Diversion use frequency—The frequency with which diversion was used did not significantly relate to either of the marijuana use measures or to disapproval of marijuana use. (However, this relationship did approach significance for past-30-day use.) Increased frequency of the use of diversion was significantly related to decreased odds of perceiving great risk in the occasional use of marijuana. (See Table 2 for these and other results examining the relationships between prosecutor predictors and marijuana-related outcomes; model N s are presented in the table.)

Fine use frequency—No significant relationships were observed between frequency of imposition of a fine and marijuana use or disapproval. The only significant relationship for this variable was found for perceived great risk of occasional marijuana use: Increasing imposition of a fine was related to increased perceived great risk.

Community service use frequency—The frequency with which prosecutors reported using community service in juvenile marijuana possession cases was significantly related to five of the six marijuana outcomes (the only variable not evidencing a relationship was perceived great risk of occasional marijuana use). Increased use of community service was significantly related to higher past-12-month and past-30-day marijuana use, decreased perceived great risk of regular marijuana use, and decreased disapproval of both occasional and regular use.

ODSL—Increasing severity of case outcomes within the juvenile justice system was found to relate to both marijuana use and disapproval of use. In comparison with communities where minimal community reaction was the most frequently used and most severe outcome (no prosecutors reported that case dismissal was the predominant outcome), communities reporting some type of out-of-home placement had significantly lower odds of both past-12-month and past-30-day marijuana use, as well as significantly increased odds of disapproving of both occasional and regular use. No relationships with perceived risk were observed.

Criminal court waiver use frequency—Relationships observed for the use of criminal court waiver were found with both marijuana use and perceived risk. Increasing use of this option was significantly associated with decreased odds of either past-12-month or past-30-day marijuana use, as well as increased odds of perceiving great risk in regular marijuana use. No relationships were observed for either of the disapproval items.

Model fit comparisons—The addition of the prosecutor-reported case processing outcomes significantly improved model fit ($p < .05$) over student-sociodemographic-only models for all but the following: (a) diversion use frequency and past-12-month marijuana use and disapproval of regular marijuana use; (b) fine use frequency and both past-12-month and past-30-day marijuana use, perceived great risk of regular marijuana use, and disapproval of both occasional and regular use; and (c) ODSL and perceived risk of use (either occasional or regular).

Results of Multivariate Models With Alcohol and Cigarette Outcomes

As noted previously, one of the research questions to be examined in these analyses focused on the specificity of any significant relationships found between prosecutor-reported outcomes for first-time juvenile offenders and substance use. Given that significant and consistent findings were observed between reported implementation of marijuana policy and marijuana-related outcomes, the next step was to examine whether similar relationships would be found between marijuana policy predictors and non-marijuana outcomes. The first step in these analyses was to conduct simple weighted correlations at the community level between the marijuana possession ODSL and similar ODSLs created as part of earlier research for alcohol possession and cocaine possession (Terry-McElrath et al., 2005). Not surprisingly, results showed that the strongest correlations were found between prosecutor-reported marijuana and cocaine case outcomes ($r = 0.46, p < .001, n = 77$). Given that both marijuana and cocaine are illicit substances, this similarity was expected. However, there also were relatively weak relationships between marijuana possession and alcohol possession reported case outcomes as reported by prosecutors ($r = 0.26, p = .07, n = 52$).

Multivariate analyses were then conducted to explore whether the marijuana-specific outcomes reported by the prosecutors would operate on both alcohol and cigarette outcomes in a manner similar to the observed findings on marijuana-related outcomes. With the same control variables as were included for marijuana outcomes, models were run to predict past-12-month and past-30-day alcohol use, past-2-week binge drinking, and past-30-day cigarette smoking prevalence and consumption among current smokers. Results, including model *Ns*, are presented in Table 3. No significant relationships between the use frequency of fine or criminal court waiver were observed for any of the alcohol and cigarette outcomes. Only one significant finding was observed for both diversion and the marijuana ODSL: Increasing use of diversion was associated with decreased past-30-day smoking consumption, and communities emphasizing placement had lower odds of past-12-month alcohol use than did communities emphasizing minimal reaction. In contrast, increasing use frequency of community service was significantly related to higher odds of all three alcohol measures, as well as past-30-day smoking prevalence.

Discussion

These analyses provided an opportunity to examine how local marijuana policy implementation may relate to marijuana-related beliefs and behaviors among youth. Findings suggest that there may be a relationship between marijuana policy and youth marijuana use, disapproval, and perception of use risk. However, the data also suggest that this connection may be affected by community-level factors and may have substance-specific aspects.

Before further reflection on the findings, it is important to address the substantive limitations of the study. First, although the sample for the study included prosecutors across the continental United States, representative sampling of prosecutors was not undertaken. The sample was based on the MTF study, which focuses on obtaining nationally representative samples of 8th-, 10th-, and 12th-grade students. Second, no attempt was made to include private or magnet schools in the sample (because of difficulties in determining school jurisdictional boundaries). Third, actual case records for juvenile marijuana offenders were not reviewed; the study relied on reported typical case processing by prosecutorial key informants. Fourth, the current analyses were not able to account for student awareness of local policies. Optimally, models would have been able to control in some way for differences between students reporting trouble with the police because of their substance use versus students without such interactions. Fifth—and of critical importance—this study does not in any way address the issue of causality. Data were cross-sectional only.

Acknowledging the above limitations, the data do allow (perhaps for the first time) for an examination of the possible relationships between local policy implementation for first-time marijuana possession offenders and co-occurring levels of marijuana use and related attitudes among youth in the same communities. Results were intriguing in that communities where deterrence policies such as placement or transfer to criminal court predominated did appear to have lower levels of marijuana use, as well as higher perceived risk and disapproval. In contrast, frequent use of community service was consistently related to higher use levels and lower risk/disapproval among youth. Few relationships were found between the use of fines and the dependent variables examined. Finally, the public health-based policy of diversion was related to decreased perceived risk of occasional marijuana use and showed indications (although not at traditional significance levels) of a relationship with increasing odds of past-30-day marijuana use.

Deterrence theory has traditionally explored the certainty, severity, and celerity of punishment (Becker, 1968; Mendes, 2004; Mendes & McDonald, 2001; Nagin & Pogarsky,

2001), assuming that such components deter criminal behavior (Ward, Stafford, & Gray, 2006). Classical deterrence theory assumes that individuals use rational choice in deliberate cost-benefit analyses of behavior. Recent discussions of deterrence theory point out that strong assumptions regarding rationality likely are not necessary, only that potential offenders choose between behaviors on the basis of their own perceptions/estimates of the costs and benefits involved (Ward et al., 2006). The research in this area continues to evolve, with some studies providing support for the impact of the certainty of punishment (compared with severity of punishment) on deterring criminal behavior (Nagin & Pogarsky, 2001; Paternoster & Iovanni, 1986) and other studies finding that it is the combination of all three deterrence components (i.e., certainty, severity, and celerity) that matters rather than any one component (Mendes, 2004; Mendes & McDonald, 2001). It is important to note that additional research points to the unintended consequences of high severity, including higher rates of recidivism and lower opportunities for offenders to change behavioral directions (Bernburg & Krohn, 2003; Bishop & Frazier, 1996; Sampson & Laub, 1993; Western & Beckett, 1999).

In the current study, negative associations were observed between the severity of marijuana case outcomes and levels of marijuana use. However, readers are cautioned against assuming that the above results provide strong evidence for deterrence theory. As noted previously, this study cannot answer the question of causality. The analytical models cannot indicate whether substance use preceded policy or policy preceded substance use. It may be that in communities where policies are strongly deterrence oriented, severity assists in decreasing marijuana prevalence by increasing the perceived risk and disapproval of use. It could also be that communities that experience high drug use levels must focus limited resources on more-serious substance offenses and deal with higher numbers of low-level marijuana possession offenders by seeking treatment via diversion programming and minimal severity adjudication options within the juvenile court system. It could further be the case that system resources unrelated to current offense rates are affecting observed relationships. For example, state-level research in the late 1970s clearly showed that the strongest predictor of juvenile detention and training school admission rates (for any offense) was bed space—far outpacing the explanatory power of property or violent arrest rates or teen unemployment rates (Krisberg, Litsky, & Schwartz, 1984). It is yet further possible that in some communities, strong social disapproval for marijuana among a heterogeneous majority both keeps marijuana use rates low and shapes highly deterrent policies.

Research on public knowledge of statutory penalties among an adult sample in Arizona supported the strong effects of social condemnation of specific behaviors in relatively homogeneous populations in deterring any specific criminal activity and as an impetus for the development of statutory policy (Williams, Gibbs, & Erickson, 1980). Specifically, Williams et al. (1980) examined relationships between preferred penalties, perceived penalties, and actual statutory penalties. Results indicated that negative associations between legal sanctions and crime rates “could reflect substantial interrelationships among [the facets of legal sanctions], the crime rate, and the social condemnation of crimes” (p. 123), rather than indicating that deterrence works as a purely objective property of legal sanctions. Given the entanglement of legal sanctions, crime rates, and social condemnation of specific behaviors, Williams et al. concluded that unless genuine deterrent effects could be isolated in any specific analysis, definitive conclusions regarding deterrence theory would possibly be misguided.

In the current study, prosecutor-reported marijuana policy implementation did relate more strongly and consistently to marijuana outcomes than to either alcohol or cigarette outcomes. However, the frequency with which community service was used for marijuana offenders

consistently related to both alcohol and tobacco use and in the same manner in which it related to marijuana outcomes. These findings lend some support to the concept that substance policy (especially policy emphasizing minimal response to substance use) may reflect general community norms regarding substance use. In the case of the relationships observed here, general acceptance of substance use among youth may relate to either no perceived need for stringent deterrence or a lack of resources or ability or desire to intervene in a stronger manner.

One further area of importance is the lack of observed relationships between community sociodemographics and the youth-reported outcomes included in the analyses. As noted previously, prior research has indicated strong relationships between community sociodemographics and prosecutor-reported juvenile marijuana possession case outcomes (Terry-McElrath et al., 2005; Terry-McElrath & McBride, 2004). However, in the current analyses, community sociodemographic variables (other than region) did not significantly relate to youth marijuana-related attitudes and beliefs. These results may indicate that community context does affect youth behaviors and attitudes but that the impact is mediated through local drug policy.

Conclusion

Local implementation of marijuana possession policy and the self-reported use of marijuana among youth (as well as disapproval and perceived risk) appear to be significantly related. These relationships may be, to an extent, specific to marijuana. Legal consequences can be argued to be part of effective community and national legal policy (Ellis, 2003; Weiner et al., 1999). However, efforts to understand local policy implementation and its effects relative to specific substances must consider the broader substance use context of any community environment as well as broader state policy implementation and enforcement environments that may be associated with local policy actions. These are areas for future research. In addition, the effects of labeling youth as deviant and the costs of a deterrence policy must be considered in policy development and implementation, whether at the national, state, or local level (e.g., Spohn & Holleran, 2002).

A wide variety of research and policy thinking suggests that there are just no simple drug policy answers. It is likely that a traditional policy feedback loop is in place whereby many processes occur simultaneously: Existing community norms, substance use levels, and related issues likely inform the policy development and implementation processes; such policy development and implementation are affected by local resources; and all factors combined then may affect individual behavior through perceived risk and personal disapproval. As indicated by prior research (McBride, VanderWaal, & Terry-McElrath, 2003), deterrence likely should be included in a broad policy approach that would also include a focus on addressing the underlying causes of substance abuse as well as a complex policy environment combining diversion and a policy of graduated sanctions that would integrate public health and deterrence approaches to drug use.

Acknowledgments

This article was supported by grants from the Robert Wood Johnson Foundation (#33009) to the University of Illinois at Chicago and the University of Michigan, as part of the Bridging the Gap initiative. The Monitoring the Future study is supported by the National Institute on Drug Abuse (DA01411). The views expressed in this article are those of the authors and do not necessarily reflect the views of the sponsors.

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Table 1

Descriptives

Variable	Range	Proportion/Mean
Outcome variables		
Any past-12-month marijuana/hashish use ($N = 10,925$)	0–1	0.28
Any past-30-day marijuana/hashish use ($N = 10,924$)	0–1	0.17
Perceive great risk in smoking marijuana occasionally ($N = 10,413$)	0–1	0.33
Perceive great risk in smoking marijuana regularly ($N = 10,401$)	0–1	0.66
Disapprove of smoking marijuana occasionally ($N = 9,471$)	0–1	0.72
Disapprove of smoking marijuana regularly ($N = 9,471$)	0–1	0.82
Any past-12-month alcohol use ($N = 10,628$)	0–1	0.60
Any past-30-day alcohol use ($N = 10,624$)	0–1	0.38
Any past-2-week binge drinking ($N = 10,634$)	0–1	0.22
Any past-30-day cigarette smoking ($N = 10,920$)	0–1	0.22
Number of cigarettes smoked among current smokers ($N = 2,447$)	0.5–40	5.73
Independent variables		
Frequency of using diversion ($N = 7,906$) ^a	1–5	3.47
Frequency of fine ($N = 7,771$) ^a	1–5	2.30
Frequency of community service ($N = 7,771$) ^a	1–5	3.48
Overall disposition severity level ($N = 7,723$) ^b		
Minimal community reaction	0–1	0.29
Community-based corrections	0–1	0.55
Placement	0–1	0.16
Frequency of criminal court waiver ($N = 7,811$) ^a	1–5	1.70
Student-level control variables ($N = 11,111$)		
Male	0–1	0.48
Race/Ethnicity		
African American	0–1	0.13
Hispanic	0–1	0.11
White	0–1	0.66
Other	0–1	0.10
Lives with both parents	0–1	0.75
Grade		
8th	0–1	0.35
10th	0–1	0.32
12th	0–1	0.33
Total weekly income (earned and other sources)	\$0–\$146	\$32.00
Grade point average ^c	1–9	6.13
Out 3+ nights per week for fun/recreation	0–1	0.45
Any past-4-week truancy	0–1	0.21
One or both parents have at least college education	0–1	0.72

Variable	Range	Proportion/Mean
Region (general control variable; N = 11,111)		
Midwest	0–1	0.28
North	0–1	0.16
South	0–1	0.32
West	0–1	0.24

^a On a 5-point scale of 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *usually*, 5 = *always*.

^b Minimal community reaction includes victim–offender mediation, restitution, or victim services; community service; fine; informal or voluntary probation. Community-based corrections include court-ordered probation with treatment services; court-ordered probation without treatment services; home detention. Placement includes out-of-home placement such as a juvenile detention center or residential facility.

^c Grade point average is measured on a 9-point scale ranging from 1 = *D* to 9 = *A*.

Table 2

Multivariate Models for Marijuana Outcomes Including Prosecutor-Reported Juvenile Case Outcomes for Marijuana Possession Offenses

Prosecutor Predictor Variables	Past-12-Month Marijuana Use			Past-30-Day Marijuana Use		
	OR	95% CI	N	OR	95% CI	N
Frequency of using diversion ^a	1.01	0.93–1.10	7,784	1.07	0.99–1.16	7,780
Frequency of fine ^a	0.96	0.89–1.04	7,641	0.97	0.88–1.07	7,640
Frequency of community service ^a	1.15**	1.04–1.26	7,641	1.11*	1.02–1.21	7,640
Overall disposition severity level ^b						
Minimal community reaction	(ref)		7,590	(ref)		7,589
Community-based corrections	0.85	0.68–1.06		0.87	0.70–1.13	
Placement	0.64**	0.49–0.84		0.66**	0.50–0.89	
Frequency of criminal court waiver ^a	0.90*	0.83–0.98	7,679	0.87**	0.78–0.96	7,677
Great Risk of Occasional Use						
	OR	95% CI	N	OR	95% CI	N
Frequency of using diversion ^a	0.92*	0.85–0.99	7,448	0.94	0.87–1.01	7,440
Frequency of fine ^a	1.09*	1.00–1.18	7,362	1.02	0.95–1.10	7,357
Frequency of community service ^a	0.95	0.86–1.04	7,362	0.91*	0.84–1.00	7,357
Overall disposition severity level ^b						
Minimal community reaction	(ref)		7,313	(ref)		7,304
Community-based corrections	0.88	0.68–1.13		1.08	0.82–1.41	
Placement	0.98	0.77–1.24		1.17	0.84–1.63	
Frequency of criminal court waiver ^a	1.06	0.99–1.14	7,418	1.10*	1.01–1.20	7,414
Disapprove of Occasional Use						
	OR	95% CI	N	OR	95% CI	N
Frequency of using diversion ^a	0.94	0.86–1.04	6,812	0.99	0.91–1.08	6,787
Frequency of fine ^a	1.04	0.93–1.16	6,785	0.99	0.90–1.08	6,780
Frequency of community service ^a	0.89**	0.82–0.97	6,785	0.83***	0.75–0.92	6,780

Prosecutor Predictor Variables	Past-12-Month Marijuana Use			Past-30-Day Marijuana Use		
	OR	95% CI	N	OR	95% CI	N
Overall disposition severity level ^b						
Minimal community reaction	(ref)		6,731	(ref)		6,729
Community-based corrections	1.06	0.82–1.38		1.31	0.99–1.72	
Placement	1.78**	1.16–2.71		1.70**	1.14–2.53	
Frequency of criminal court waiver ^a	1.09	0.99–1.20	6,850	1.07	0.97–1.18	6,844

Note: Prosecutor predictor variables modeled separately. All models clustered by state, and controlled for gender, race/ethnicity, living with both parents, grade, student weekly income, grade point average, evenings out per week, truancy, average parental education, and region. CI = confidence interval; OR = odds ratio; ref = referent category.

^aOn a 5-point scale of 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *usually*, 5 = *always*.

^bMinimal community reaction includes victim–offender mediation, restitution or victim services; community service; fine; informal or voluntary probation. Community-based corrections include court-ordered probation with treatment services; court-ordered probation without treatment services; home detention. Placement includes out-of-home placement such as a juvenile detention center or residential facility.

* $p < .05$;

** $p < .01$;

*** $p < .001$.

Multivariate Models for Alcohol and Cigarette Outcomes Including Prosecutor-Reported Juvenile Case Outcomes for Juvenile Marijuana Possession Offenses

Table 3

Prosecutor Predictor Variables	Past-12-Month Alcohol Use			Past-30-Day Alcohol Use			Binge Drinking		
	OR	95% CI	N	OR	95% CI	N	OR	95% CI	N
Frequency of using diversion ^a	0.99	0.91–1.07	7,592	0.99	0.90–1.09	7,583	1.00	0.91–1.10	7,600
Frequency of fine ^a	1.00	0.91–1.10	7,438	0.98	0.90–1.06	7,442	0.96	0.88–1.05	7,447
Frequency of community service ^a	1.11**	1.03–1.19	7,438	1.11*	1.02–1.20	7,442	1.18***	1.08–1.30	7,447
Overall disposition severity level ^b									
Minimal community reaction	(ref)		7,392	(ref)		7,398	(ref)		7,401
Community-based corrections	1.02	0.78–1.35		1.13	0.86–1.49		1.13	0.87–1.46	
Placement	0.75**	0.62–0.92		0.94	0.74–1.19		0.97	0.75–1.25	
Frequency of criminal court waiver ^a	0.94	0.87–1.01	7,462	0.97	0.90–1.04	7,466	1.01	0.92–1.10	7,474
	Past-30-Day Smoking			Consumption Among Current Smokers					
	OR	95% CI	N	Coeff	SE	N			
Frequency of using diversion ^a	0.91*	0.83–0.99	7,780	0.001	0.041	1,752			
Frequency of fine ^a	1.02	0.92–1.12	7,634	–0.002	0.041	1,642			
Frequency of community service ^a	1.17**	1.05–1.31	7,634	0.047	0.039	1,642			
Overall disposition severity level ^b									
Minimal community reaction	(ref)		7,592	(ref)		1,654			
Community-based corrections	0.81	0.60–1.09		0.037	0.076				
Placement	0.78	0.58–1.05		0.212	0.178				
Frequency of criminal court waiver ^a	0.99	0.89–1.10	7,667	0.039	0.046	1,659			

Note: Prosecutor predictor variables modeled separately. All models clustered by state, and controlled for: gender, race/ethnicity, living with both parents, grade, student weekly income, grade point average, evenings out per week, truancy, average parental education, and region. CI = confidence interval; OR = odds ratio; ref = referent category; coeff = coefficient; SE = standard error.

^aOn a 5-point scale of 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *usually*, 5 = *always*.

^bMinimal community reaction includes victim-offender mediation, restitution, or victim services; community service; fine; informal or voluntary probation. Community-based corrections include court-ordered probation with treatment services, court-ordered probation without treatment services, home detention. Placement includes out-of-home placement such as a juvenile detention center or residential facility.

$p < .50$; *
 $p < .01$; **
 $p < .001$; ***