The Delinquency and Drug Use Relationship Among Adolescents: A Critical Review

Richard R. Clayton, Ph.D.

The primary purpose of this paper is to review what is now known about the delinquency-drug use relationship among adolescents. A related task is to use the review to target aspects of the delinquency-drug use relationship that require further research scrutiny and more elaboration.

Most of the research on the crime-drug nexus has dealt with drug use among criminal offenders (cf., Barton 1970; Bukeman et al. 1971; Honal et al. 1972; Weinman et al. 1974) and criminality among narcotics addicts (cf., Inciardi and Chambers 1972; Voss and Stephens 1973; Mill et al. 1975; Murco and Dupont 1977; Universal 1979). In the recent past a number of reviews of the crime-drug relationship have been published, usually with a special emphasis on narcotics use (Chambers 1974; Cutler 1974; Gold 1974; Greenberg and Alar 1974; Research Triangle Institute 1976; Vissman 1979; Gandossy et al. 1980).

The story with regard to the delinquency-drug use relationship among adolescents is different. While there are a multitude of studies that examine the etiology of adolescent drug use or juvenile delinquency and some that focus on both drug use and delinquency as separate indices of deviance, there are relatively few studies that attempt to understand how delinquency and drug use are related to each other. However, these latter studies have been thoroughly reviewed by Elliott and Agnew (1978b). They divided the extant literature into "studies of officially defined drug users and delinquents" (Chein 1964; Chein et al. 1964; Weitzner et al. 1973; Friedman and Friedman 1973a) and "studies involving normal youth populations" (Robins and Murphy 1967; Jacoby et al. 1973; Friedman and Friedman 1974a; Goode 1973; Johnston 1973; O'Donnell et al. 1976; Jessor and Finney 1973; Jessor 1976; Gold and Reimer 1974; Elliott and Agnew 1979, 1980; Hindeling and Wulic 1979).

It would be redundant to review in detail each of the studies reviewed by Elliott and Agnew (1978b). Therefore, in the remainder of this paper findings and conclusions from the studies reviewed by Elliott and Agnew will be used only to highlight the points being made.

Before the substantive findings and conclusions are reviewed, it would be useful to delineate the methodological and scientific bases from which the delinquency-drug use relationship should be examined. In
the next section a model of the relationship is presented along with a discussion of the criteria of causality that should be applied to this relationship.

THE DELINQUENCY-DRUG USE RELATIONSHIP: A METHODOLOGICAL MODEL

The methodological model that is most appropriate for examining the delinquency-drug use relationship (Clayton and Tuchfeld, unpublished) is based on the multivariate "elaboration" approach of Lazarsfeld (1955), Blalock (1971), Rosenberg (1968) at the nonparametric level and the causal modeling approach of Hauser (1971), Box (1976), and Duncan (1975) at the parametric level.

Model A

The Elaboration Model of the Delinquency-Drug Use Relationship Among Adolescents

A = Antecedent Variables

\[ X = \text{Delinquent Behavior} \]

\[ Y = \text{Drug Use} \]

Intervening Variables


This model is based on the probabilistic concept and criteria of causality accepted by virtually all social scientists. Hirschi and Cernkovich (1967) identified the three essential criteria of causality as follows:

- The predictor and effect variables must be correlated (i.e., statistical association).
- The predictor variable must be antecedent to the effect variable in time-order occurrence. Because social scientists usually aggregate data for individuals according to group characteristics (e.g., gender, ethnicity, etc.), the predictor variable must be antecedent to the effect variable in the "majority" of cases, not necessarily in all cases.
It must be demonstrated that the observed statistical correlation between the predictor and effect variable does not result from both being "caused" by variables antecedent to both (i.e., the zero-order relationship must be tested for "spuriousness" by partialing out the influence of antecedent variables).

Wald's law has several components that deserve attention. First, there are two-headed arrows between delinquency and drug use. This implies that (a) drug use could be antecedent to and predictive of delinquency and (b) delinquency could be antecedent to and predictive of drug use. In either case, the first order of research business is to establish the degree of association between the two variables.

Second, the two-headed arrows imply that one must establish the predominant temporal order among drug-using and delinquent behaviors. There are several meanings of temporal order found in the literature on the delinquency-drug-use relationship. One must examine meaning focused on "onset." Does age at first delinquent act predate age at first drug use, or vice versa? The answer to this question usually hinges on whether the researcher is interested only in illicit drug use, in which case delinquency is usually the predictor and illicit drug use the effect variable. If the researcher has data on first use of alcohol or cigarettes or first experience with tobacco inhalation, in addition to onset of use of illicit drugs, the temporal sequence might be: first use of illicit drugs to first delinquent act to first use of illicit drugs. A second and less common meaning of temporal order involves charting the dynamic intersection of drug-using and delinquent behaviors over time. For example, the research question using this meaning of temporal order is: Among persons who have already engaged in delinquent acts, does initiation of drug use increase the frequency, seriousness, and variety of delinquent activities, and does this lead to greater drug involvement, and so on? While both meanings of temporal sequencing are related to the delinquency-drug relationship, design and other considerations have led most researchers to use the first meaning, onset events by onset events.

Determining whether a relationship is spurious is the most difficult criterion of causality to establish beyond reasonable doubt. It is also the criterion that is least understood. In model a the delinquency-drug-use relationship is tested for spuriousness by partialing out or perturbing the effect of variables that are antecedent to and independently cause both drug use and delinquency. This requires that (a) one provide evidence that these variables are, in fact, antecedent to both X and Y, and (b) one show that the zero-order correlation coefficients (XY, XZ, YZ, ..., etc.) reduce to zero or become statistically nonsignificant.

The last component of model a that should be discussed is located in the oval sphere between delinquency and drug use. There are variables that intervene quite regularly and/or directly in the relationship between drug use and delinquency that may affect statistical control on the intervening variable(s) should produce a zero or statistically nonsignificant partial correlation coefficient. If this occurs it does not mean that X is not a cause of Y. Instead, it means that the influence of X on Y is indirect, not direct, and understanding of the XY relationship. Shown differently, evidence of

There is a great deal of variation in the methodological rigor among the studies that have dealt with the delinquency-drug-use relationship. To the findings from studies conducted in the recent past as opposed to studies that are based on normal population identified delinquents or drug users.

DELIQUENCY AND DRUG USE AMONG ADOLESCENTS: ARE THEY CORRELATED?

The first criterion of causality concerns the presence of a relationship between the variables in question at all. Often the most ambiguous generalization that can be made is the relationship or a behavioral pattern involving the use of other drugs of alcohol use and drug use. This is generally and engaging in a variety of other unconventional or nonconforming and attempts to deviate, behavior. The results of a study by Scott and Winick (1980) found some association only to this question usually a study by Scott and Winick (1980) that the relationship in general and seems to hold for both serious and

DELIQUENCY AND DRUG USE AMONG ADOLESCENTS: WHAT IS THE PRIMARY CRIMINAL GROUP?

In the broader literature on the crime-drug nexus there is consensus on the question of temporal order. Many studies of opiate addicts reveal that criminal involvement precedes use of heroin and vice versa (cf., Wink 1979). Similarly for alcohol and heroin, Sokolowski et al., 1978; Marcius et al., 1977, found minimal criminal activity prior to first use of narcotics. One study of addicts at the Lexington Hospital by Voss and Stephens (1979) concluded that the last criterion of causality concerns the extent to which the observed association is predicated on normal population identified delinquents or drug users.
There is considerable consensus that involvement in delinquent behavior precedes any use of illicit drugs. This generalization clearly does not apply to alcohol use but does apply to the total range of illicit drug use. There is considerable evidence that delinquency precedes illicit drug use.

**THE DELINQUENCY-DRUG USE RELATIONSHIP: IS IT SPURIOUS?**

There is also a consensus that the delinquency-drug relationship among adolescents is spurious; that is, the observed correlation between these two variables washes out when variables antecedent to and causally related to both delinquency and drug use are statistically controlled.

Goode (1973), in a study conducted for the Marijuana Commission, said that his findings strongly support the view that marijuana use by itself is not related in any meaningful way to criminal behavior. He claims that the spurious model seems to be a far more accurate description of the relationship between marijuana use and criminal behavior than the causal model.

**Elliott and Ageton (1976)** reached the same conclusion in a cross-sectional survey of probability samples of over 8,000 youths 11 to 17 years old drawn from 7 cities. They compared their findings from this study of "normal" youths with those obtained when only those youths reporting substantial involvement in delinquency were examined (n = 1,020). Summarizing the findings in their review article, Elliott and Ageton (1976b) say:

> The results of this study which involved surveys of large normel youth populations suggest that the association between marijuana use and subsequent occurrence of property or violent crimes is spurious and that marijuana use is normative for youth involved in any significant amount of delinquency. The same finding was observed for alcohol use. At the same time, these results suggest that the use of hard drugs and the sale of marijuana or hard drugs is associated with both income-producing and violent crimes, and that this relationship is not explained by one's general involvement in delinquency.

Johnson et al. (1974) used a national probability sample of young men studied at five points in time to examine the delinquency-drug use relationship. While the ages covered were 16 to 31, those concerned with initial age at onset of drug use did not appear in the schedule until the fourth data collection. At this time, most of the respondents had been out of high school for a year. At this point, they were asked to recall their drug use during the year prior to graduation, when they were 17 to 18 years old, and for the year after graduation when they were 18 to 19 years old. Similar data on drug use were obtained when the respondents were 19 to 20 years old.
of data. Elliott and Ageton (1976) note: "It should be remembered, however, that by the time the initial drug measures were obtained, the cohort was approximately 15; recalling drug use 2 years earlier was probably viewed as

The initial onset of drug use was probably viewed as

for a large proportion of sample subjects."

Johnston et al. (1978) used a composite measure of drug use involving marijuana, other drug use (not including heroin), and heroin use, with

and were gathered in all five waves yielding two indices: theft and

Vandalism theft of objects worth over $50, breaking, shoplifting, and theft theft of objects worth over $50; and an index of interpersonal Aggression of objects worth under $50); and an

The findings from this study are especially important because the sample is from a normal popu-

Johnston et al. (1978) state:

What we do conclude from these explorations is that nonmedical use of illicit drugs does not seem to play such a role in leading users to become the more delinquent people we know than to be on the average
delinquent behavior becomes considerably more common from age to age. That is, delinquency leads to drug use.

For example, we think it quite probable that delinquents may be more likely to become drug users. A deviant peer group may be more likely to become a part of a peer group. We suspect that the correlation in such a peer group is not only due to the deviant drug use but not only due to the deviant drug use in this study to buttress these alternate hypotheses and to determine if the conclusion that it is spurious is still debatable, a correlation matrix from an unpublished paper by Krohn and Massey (1979) was analyzed.

Krohn and Massey (1979): SOCIAL BOUNDARY THEORY, DRUG USE, AND DELINQUENT BEHAVIOR

Krohn and Massey (1979) gathered data via self-administered questionnaires from a representative sample of male and female students (n = 5,085) in grades 7 through 12 in six communities within three midwestern states. Four forms of deviance were measured and used as independent indicators:

- Alcohol Use (self-reported frequency with which these two drugs were used).
- Hard Drug Use. Self-reported frequency with which stimulant, depressant, psychedelic, and inhalants were used.
- Minor Delinquency. Self-reported involvement in (a) running away from home, (b) sexual intercourse, (c) truancy, and (d) school suspension and expulsion.

So, while, we have relatively little direct evidence from this study to buttress these alternate hypotheses for explaining the connection between nonmedical drug use and other forms of delinquency, we intuitively find them useful means of understanding the delinquency-drug use relationship. The studies by Elliott and Ageton (1976) and by Johnston et al. (1978) are in agreement—the delinquency-drug use relationship is spurious. However, whether the idea that the relationship is causal has suffered a substantial hit, or not, is still debatable for several reasons. First, Johnston et al. (1978) focused only on illicit drug use, ignoring the possible role of alcohol. They also pointed out that the major deliquent behavior would not be suggested that alcohol, which was not investigated but which certainly a drug, does not lead to criminal or violent behavior" (p. 156). Second, there is solid evidence that marijuana use is strongly related to drug sales (see Single and Kosinski 1978; Johnston 1972; Clayton and Vose, in press), and thus may be related to subsequent delinquency/criminality and use of other illicit drugs, both directly and indirectly. If this is so, the marijuana use/delinquency relationship may be clarified by controls on drug sales.

Third, neither the Elliott and Ageton (1976) study nor the study of Johnston et al. (1978) tested the delinquency-drug use relationship by controlling on variables antecedent to both that might be causally related to them in a theoretical sense. In other words, these two studies are essentially atheoretical. In order to address this in this paper the issue of spuriousness of the delinquency-drug use relationship and to determine if the conclusion that it is spurious is still debatable, a correlation matrix from an unpublished paper by Krohn and Massey (1979) was analyzed.

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- Minor Delinquency. Self-reported involvement in (a) running away from home, (b) sexual intercourse, (c) truancy, and (d) school suspension and expulsion.
Serious Delinquency. Self-reported involvement in (a) vandalism, (b) motor vehicle theft, (c) assault, (d) use of or threatening to use a weapon, (e) theft of things worth $2 to $50, and (f) theft of things worth over $50.

The primary purpose of the study was to test the relative efficacy of three major concepts from Hirschi's (1969) social bonding theory of delinquency: attachment, commitment, and belief.

Attachment was measured by scales tapping the components of (a) supervision, (b) praise, (c) discouragement, (d) closeness, and (e) satisfaction. The questions composing these scales were similar to those used by Hirschi and yielded indices of Maternal Attachment, Paternal Attachment, and Peer Attachment. Krohn and Massey (1979) say: "The item-to-scale correlations indicate that all three scales have a high degree of internal reliability." (p. 10)

Commitment was measured on four dimensions: (a) grade point average, and by questions similar to Hirschi's dealing with (b) education aspirations and (c) career aspirations. In addition, Krohn and Massey created a (d) commitment scale by asking the students to indicate how important participating in each of the following activities is to them: school work, athletics, musical groups, pep groups, other school activities, church activities, and community clubs.

Belief was measured by three items concerning the degree of agreement or disagreement respondents have with parental norms (i.e., parents' morals are good for me), legal norms (i.e., moral duty to obey the law), and the value of education (i.e., school learning helps find job).

Thus, Krohn and Massey (1979) have a total of 10 predictor variables representing the three major concepts from social bonding theory. They used these variables to predict alcohol/marijuana use, use of hard drugs, minor delinquency, and serious delinquency. While they have the data to do so, neither Krohn and Massey (1979), nor Akers et al. (1979), nor Krohn et al. (1982) seem to have examined the efficacy of these variables in elaborating relationships among the indices of deviance.

Krohn and Massey did provide a zero-order correlation matrix (see Table 2 for Pearson r-values) for relationships among the three attachment variables, the four commitment variables, the three belief variables, and the four indices of deviance (alcohol/marijuana use, use of hard drugs, minor delinquency, and serious delinquency). With model A and Hirschi and Selvin's (1967) three criteria of causality in mind, this matrix will be analysed using partial correlation and multiple regression techniques. This analysis will address a basic research question: Is the delinquency-drug abuse relationship among adolescents really spurious?
ASSOCIATION AMONG FOUR INDICES OF DEVIANCE: THE KROHN AND MASSEY (1979) STUDY

The data in Table 2 indicate the presence of strong relationships among the four measures of deviance.

- Alcohol/Marijuana—Hard Drugs ($r = .491$)
- Alcohol/Marijuana—Minor Delinquency ($r = .593$)
- Alcohol/Marijuana—Serious Delinquency ($r = .477$)
- Hard Drugs—Minor Delinquency ($r = .424$)
- Hard Drugs—Serious Delinquency ($r = .378$)
- Minor Delinquency—Serious Delinquency ($r = .474$)

It is clear that delinquency and drug use are associated and thus meet the first criterion of causality. The average correlational value among the four measures of deviance is .473. Given the conservative nature of the Pearson $r$ measure, this is quite high. The average correlational value among the three attachment indices is .263 compared to a value of .396 among the four commitment items and .287 among the three belief items.

TEMPORAL ORDER AMONG THE FOUR INDICES OF DEVIANCE: THE KROHN AND MASSEY (1979) STUDY

Establishing causal association between delinquency and drug use was a simple task. However, establishing a temporal ordering among the four measures of deviance, the second criterion of causality, will be more difficult since the paper by Krohn and Massey (1979) and other papers based on these data (Akers et al., 1979; Krohn et al., undated) provide no information on the question of time-order of occurrence. Another complicating factor is that the data are cross-sectional. Therefore, any temporal ordering imposed on these variables must be logically and empirically defensible.

We can assume with confidence that minor delinquency and alcohol/marijuana use are both antecedent to use of hard drugs and serious delinquency. Since the data are cross-sectional, it is somewhat more difficult to say with certainty where the social bonding variables should be temporally located with respect to alcohol/marijuana use and minor delinquency. However, given the relatively young age (12 to 17 years old) of the respondents and the fact that the social bonding items reflect attachments, commitments, and beliefs that are probably stable over time, we have assumed that the theory-based items are antecedent to all four measures of deviance. Finally, it would be erroneous to posit a time-order among (a) alcohol/marijuana use and minor delinquency or (b) use of hard drugs and serious delinquency without further data analysis. Therefore, at this point we are dealing with the relationships implied by model B.
The zero-order and partial correlations among these variables are:

- Alcohol/Marijuana—Serious Delinquency ($r = 0.477$), controlling on Minor Delinquency produces a partial $r$ of 0.276, a reduction of 0.201.
- Minor Delinquency—Serious Delinquency ($r = 0.474$), controlling on Alcohol/Marijuana yields a partial $r$ of 0.270, a reduction of 0.204.
- Alcohol/Marijuana—Hard Drugs ($r = 0.491$), partial $r$ controlling on Minor Delinquency equals 0.329, a reduction of 0.162.
- Minor Delinquency—Hard Drugs ($r = 0.424$), partial $r$ controlling on Alcohol/Marijuana equals 0.189, a reduction of 0.235.

Simply put, these findings do not allow us to unambiguously assign temporal ordering to these four indices of deviance. Therefore, for the present we will assume that the blocking of these four variables as seen in model B is a fair reflection of reality for this sample.

Another way of attempting to unravel the time-order among these variables is to regress serious delinquency and use of hard drugs against all variables possibly antecedent to them in model B. It is likely that the standardized partial beta will be higher for those variables most proximate to the dependent variable. It should be noted that the standardized partial betas are synonymous with the unstandardized beta values when a matrix without means and standard deviations constitutes the input.

As the data in table 3 indicate, the order in which alcohol/marijuana use and minor delinquency enter the equation is similar for both serious delinquency and hard drugs. It is clear that alcohol/marijuana use accounts for considerably more of the variance in serious delinquency. It is also clear that the beta for the alcohol/marijuana path to use of hard drugs is considerably stronger than the path from minor delinquency. When the dependent variable is serious delinquency, alcohol/marijuana enter the equation first, but the path from minor to serious delinquency is somewhat stronger. Overall, more than 30 percent of the variance in both serious delinquency and use of hard drugs is explained by all of the predictor variables, although there is a steady diminution in incremental variance explained after the three behavioral variables enter the equation.

The conclusion that seems best justified, although it is not as clear as one would prefer, is that minor delinquency seems to be marginally more antecedent to alcohol/marijuana use than vice versa. Therefore, model C has been constructed to represent a best guess as to the structure of the relationships among the variables in the Krohn and Massey study.

### Table 3: Regression of Use of Hard Drugs and Serious Delinquency on 13 Predictor Variables: The Krohn-Massey Study

<table>
<thead>
<tr>
<th>Dependent Variable = Use of Hard Drugs</th>
<th>Data</th>
<th>t Value</th>
<th>Cumulative R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol/marijuana use</td>
<td>.291</td>
<td>106.877</td>
<td>.341</td>
</tr>
<tr>
<td>Minor delinquency</td>
<td>.123</td>
<td>43.835</td>
<td>.288</td>
</tr>
<tr>
<td>Serious delinquency</td>
<td>.128</td>
<td>48.061</td>
<td>.294</td>
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<tr>
<td>Commitment scale</td>
<td>.090</td>
<td>31.826</td>
<td>.295</td>
</tr>
<tr>
<td>Career aspiration</td>
<td>.070</td>
<td>29.263</td>
<td>.298</td>
</tr>
<tr>
<td>School learning helps find job</td>
<td>.060</td>
<td>22.866</td>
<td>.300</td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>.056</td>
<td>20.012</td>
<td>.302</td>
</tr>
<tr>
<td>Paternal attachment</td>
<td>.032</td>
<td>11.773</td>
<td>.303</td>
</tr>
<tr>
<td>Maternal attachment</td>
<td>.028</td>
<td>8.939</td>
<td>.303</td>
</tr>
<tr>
<td>Grade point average</td>
<td>.016</td>
<td>4.072</td>
<td>.303</td>
</tr>
<tr>
<td>Parental morale is good for me</td>
<td>.014</td>
<td>3.661</td>
<td>.303</td>
</tr>
<tr>
<td>Moral duty to obey the law</td>
<td>.011</td>
<td>3.519</td>
<td>.303</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable = Serious Delinquency</th>
<th>Data</th>
<th>t Value</th>
<th>Cumulative R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol/marijuana use</td>
<td>.212</td>
<td>104.535</td>
<td>.288</td>
</tr>
<tr>
<td>Minor delinquency</td>
<td>.123</td>
<td>40.725</td>
<td>.239</td>
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<tr>
<td>Use of hard drugs</td>
<td>.075</td>
<td>26.538</td>
<td>.268</td>
</tr>
<tr>
<td>Peer attachment</td>
<td>.072</td>
<td>24.372</td>
<td>.271</td>
</tr>
<tr>
<td>Grade point average</td>
<td>.065</td>
<td>17.411</td>
<td>.273</td>
</tr>
<tr>
<td>Maternal attachment</td>
<td>.056</td>
<td>13.786</td>
<td>.275</td>
</tr>
<tr>
<td>Parental morale is good for me</td>
<td>.050</td>
<td>11.090</td>
<td>.277</td>
</tr>
<tr>
<td>Career aspiration</td>
<td>.036</td>
<td>8.095</td>
<td>.278</td>
</tr>
<tr>
<td>Moral duty to obey the law</td>
<td>.033</td>
<td>6.709</td>
<td>.279</td>
</tr>
<tr>
<td>Commitment scale</td>
<td>.032</td>
<td>6.375</td>
<td>.280</td>
</tr>
<tr>
<td>School learning helps find job</td>
<td>.015</td>
<td>3.969</td>
<td>.281</td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>.011</td>
<td>3.249</td>
<td>.281</td>
</tr>
</tbody>
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A Revised Model of the Delinquency-Drug Use Relationship Among Adolescents: The Krohn-Massey (1979) Test of Social Bonding Theory

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Serious Delinquency

IN THE DELINQUENCY-DRUG USE RELATIONSHIP SPURIOUS? THE KROHN-MASSEY (1979) STUDY

With the association between delinquency and drug use firmly established and the temporal order tenuously established, it is now possible to test the relationship for spuriousness. It should first be noted that the items designed by Krohn and Massey (1979) to represent the central concepts of Hirschi's (1967) social bonding theory are reliable and are solidly grounded in a widely accepted theory of deviance. In terms of conceptual grounding this test of the delinquency-drug use relationship for spuriousness is somewhat superior to the tests conducted by Elliott and Ageton (1976b) and Johnston et al. (1978).

The data in table 4 indicate unambiguously that Johnston et al. (1978) were not accurate in stating that the "causal" model of the delinquency-drug use relationship "has suffered a substantial, if not mortal, blow." In fact, the data in table 4 indicate that the relationship between minor delinquency and alcohol/marijuana use in the Krohn and Massey study is not spurious. The original relationship (r = .593) is not substantially lower in any of the 10 first-order partials. A simultaneous control on all of the variables listed above (10th order partial) produces a partial r of .458, still statistically significant and significantly different from the zero that would be expected if the original relationship were spurious. While it is true that statistical controls on sociodemographic variables such as age and sex and psychosocial variables such as self-esteem, rebelliousness, and impulsivity were not employed, it is highly unlikely that they would be sufficiently related to both minor delinquency and alcohol/marijuana use to render that relationship spurious.

SUMMARY AND CONCLUSIONS

The primary purpose of this paper has been to review critically what is known about the delinquency-drug use relationship among adolescents. In doing so the focus has been on applying the widely accepted criterion of causality outlined by Hirschi and Selvin (1967): association, temporal order, and testing the relationship for spuriousness. The extant literature has consistently proven a statistical association between delinquency and drug use. There is also consensus that onset of delinquency usually precedes involvement with illicit drugs. The two studies (Elliott and Ageton 1976a; Johnston et al. 1978) that have most rigorously applied the third criterion of causality also agree that the delinquency-drug use relationship is spurious.

Table 4
The Minor Delinquency-Alcohol/Marijuana Relationship: Testing for Spuriousness with the Krohn-Massey Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>Partial r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal attachment</td>
<td>.500</td>
<td></td>
</tr>
<tr>
<td>Parental attachment</td>
<td>.505</td>
<td></td>
</tr>
<tr>
<td>Peer attachment</td>
<td>.500</td>
<td></td>
</tr>
<tr>
<td>Commitment scale</td>
<td>.542</td>
<td></td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>.503</td>
<td></td>
</tr>
<tr>
<td>Career aspiration</td>
<td>.503</td>
<td></td>
</tr>
<tr>
<td>Grade point average</td>
<td>.555</td>
<td></td>
</tr>
<tr>
<td>Belief Parents are good for me</td>
<td>.554</td>
<td></td>
</tr>
<tr>
<td>Moral duty to obey the law</td>
<td>.545</td>
<td></td>
</tr>
<tr>
<td>School learning helps find job</td>
<td>.508</td>
<td></td>
</tr>
</tbody>
</table>

Simultaneous control on all 10 variables listed above (10th order partial) | .458
Data from a study of a representative sample of over 3,000 adolescents 12- to 17-years-old were analyzed with respect to the three criteria of causality. While previous findings about association and Massey (1979) study provides strong evidence that the delinquency-drug use relationship is not spurious. This finding is quite important and deserves additional comment for several reasons. First, this is the first time that the delinquency-drug use relationship among adolescents has been systematically tested for spuriousness with the results supporting the causal instead of the spurious model. Second, the analysis of which these results were obtained was completely secondary (i.e., the data input was from a matrix in a paper unpublished at the time). Third, this study allowed for testing the relationship for spuriousness with a series of items derived from a widely accepted theory of deviance. One might conclude that these comments that there may be numerous data sets that could be "reanalyzed" using model A and the three criteria of causality as guides.

A preliminary list of such data sets would include the Treatment Outcome Prospective Study (TOPS), the youth sample from the Supported Work study, the national study of adolescent drinking behavior (Blum et al., 1979), the various national surveys of high school seniors (Clayton, 1981), the national study of adolescent drinking behavior (Ball, 1981), and the three criteria of causality as guides.

It is also important to note again that the Krohn and Manor study was designed explicitly to test a theory of deviance. In recent years a great deal of attention has been devoted to refining and synthesizing extant theories of deviance (Elliott et al., 1979) and theories in the drug field (Leffler et al., 1980). It is time for those studying drug use and delinquency among adolescents to move beyond description and into the ontology of those phenomena with vigor.

However, the implications of the finding that the delinquency-drug use relationship may be causal, instead of spurious, extend far beyond the empirical finding. Assume that the relationship, at least among "normal" adolescents, is causal. With such an assumption it may be possible to devise efficacious early detection and drug education prevention programs that fall much closer to the primary than the secondary and tertiary end of the prevention continuum. As Rice and Richards (1979) note:

"Drug abuse has become such a field in itself that its practitioners sometimes forget that their clients are by legal definition delinquents, and for those heavily drug involved, there are likely to be continuing serious crimes as well. (p. 260)"

REFERENCES


AUTHOR

Richard R. Clayton, Ph.D.
Professor
Department of Sociology
University of Kentucky
Lexington, Kentucky 40506