

Drug Abuse Among Minority Youth: Advances in Research and Methodology

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Integrating Mainstream and Subcultural Explanations of Drug Use Among Puerto Rican Youth

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INTRODUCTION

Drug use and delinquency researchers have developed useful, empirically tested models (Brook et al. 1990; Elliott et al. 1985; Jessor and Jessor 1977; Kandel 1974; Kaplan 1975) but have done so on the basis of a database generally restricted to white, middle-class youth from small cities and/or suburban areas. Therefore, there is little information on the extent to which existing mainstream theories are applicable to minority, poor youth from inner-city areas, the population believed to be most at risk of engaging in delinquency and alcohol and other drug use.

In contrast, subcultural explanations of drug use and other problems among minority youth have been based on a rich store of data (for the most part qualitative) focusing on sociocultural aspects of inner-city life that are unique to specific problem behaviors (Anderson 1978; Curtis 1975; Hannerz 1969; Horowitz 1982; Liebow 1967; Rainwater 1970). However, the theories have been derived without theoretical or empirical reference to mainstream explanations of deviance. This chapter is based on the premise that conceptual models from mainstream and subcultural explanations of deviance should be integrated into extended models that distinguish between the universal and culturally specific aspects of theories. This strategic approach has been employed in a series of analyses attempting to extend Elliott and associates' (1985) Integrated Social Control (ISC) model to drug use and delinquency among Puerto Rican youth. This chapter summarizes these analyses and amplifies them by considering in greater depth how the theoretical assumptions and methodological approaches to the notion of acculturation may be integrated with mainstream approaches.

MAINSTREAM AND SUBCULTURAL EXPLANATIONS OF DRUG USE

Although mainstream theories of deviance are largely based on the experiences of nonminority youth, they constitute an essential point of departure for conceptualizing minority adolescent deviance. These theories differ on the factors they emphasize as central, but most agree on the types that must be included.

Most theories view delinquency as a reaction to *disadvantaged status* in terms of ethnicity or class (Rutter and Giller 1983; Braithwaite 1981; Datesman et al. 1975) that adversely influences individuals' options in life. Social psychological processes have been posited to link disadvantaged status to deviance. An important example is strain theory (Cloward and Ohlin 1960; Simon and Gagnon 1976; Elliott and Voss 1974), which emphasizes discrepancies between achievement aspirations and expectations as the motivational mechanism for deviance.

In some theories, a *social environment* tolerant of crime and drug use is viewed as contributing to adolescents engaging in deviant behavior (Conger 1971; Shaw and McKay 1942; Smith 1983). An antisocial environment may provide opportunities for involvement in deviant behavior through the availability of inappropriate behavior models to emulate or through instrumental opportunities. For example, drug use is more likely if drugs are available in the neighborhood (Dembo et al. 1979, 1986).

Most mainstream theories view deviance as the result of failures in *conventional bonding* by the family, school, and other institutions whose functions are to socialize youth to the conventional order (Kandel 1980; Jessor and Jessor 1977; Brook et al. 1990). When socialization is effective, youth develop an emotional attachment to the school and family, a commitment to conventional activities, an involvement with such activities, and a belief in the moral order underlying conventional bonds (Elliott et al. 1985; Kaplan et al. 1984; Kandel 1980; Jessor and Jessor 1977; Hirschi 1969).

Peer bonding is another critical element in explaining deviance. In the social learning perspective (Akers 1977; Sutherland 1947) adolescents learn delinquency by modeling—exposure to friends' delinquent behavior, peers' social approval of delinquent acts, and anticipated rewards for engaging in delinquency. Peer group influences on deviance are especially likely when there is weak bonding to the family and school (Elliott et al. 1985; Kandel 1980; Jessor and Jessor 1977; Hirschi 1969).

More proximal to problem behavior and influenced by the more distal social factors discussed above is the adolescent's *self-concept*—the overall sense of

personal worth and efficacy (Bandura 1982; Brook et al. 1990; Kandel 1974; Kaplan 1975; Kaplan et al. 1984). Serious psychological disorders such as depression may underlie poor self-concept (Jensen et al. 1988; Mitchell et al. 1988).

The factors discussed above can be integrated. For example, Rodriguez and Zayas (1990) point out that disadvantaged status, low income, and discrimination, together with social environments that tolerate deviance, may be posited to weaken conventional bonding and strengthen deviant peer bonding. Weak conventional bonds and strong deviant peer bonds may directly influence deviance, but they may also foster a weak self-concept, a more proximate and psychological influence on deviance. Models such as these, which generally have not been informed by insights from studies of minority group behavior nor tested among minority subpopulations, are nevertheless assumed to be universally applicable. Therefore, it is important to consider how explanations derived from the sociocultural experiences of minority groups provide insights not encountered within mainstream approaches. Delinquency and drug use research on minority populations has often relied on explanations that link such behaviors to subcultural characteristics, for example, ethnically derived norms and values about the male role (Anderson 1978; Curtis 1975; Horowitz 1982). Other subculturally based concepts, such as delinquent subculture (Miller 1958) and lower class subculture (Curtis 1975; Hannerz 1969; Lewis 1961; Liebow 1967; Rainwater 1970; Suttles 1955), emphasize the existence of survival strategies to deal with disadvantaged status.

Although subcultural theories have had an important influence in deviance research, they have not been integrated into mainstream drug use and delinquency research. Often based on difficult-to-replicate qualitative research, they have seldom been empirically tested through large-scale sample surveys. How then can models attempting to integrate subcultural and mainstream explanations be tested? To address this issue, the authors applied Elliott and colleagues' (1985) ISC model to inner-city Puerto Ricans. The ISC model integrates factors relevant to major explanations of deviance—strain theory (Elliott and Voss 1974; Simon and Gagnon 1976), social control theory (Hirschi 1969), and social learning theory (Akers 1977; Conger 1976). The model posits that strain—discrepancies between aspirations and expectations about school, family, and occupation—indirectly influences deviance through its negative effects on conventional bonding to the family and school (a social control construct). Conventional bonding in turn indirectly reduces deviance through its negative effect on tolerance of deviance (social control) and deviant peer bonding (a social learning construct). Thus, the effects of strain and conventional bonding are filtered through deviant peer bonding.

The factors emphasized in the ISC model are also conceptualized in adolescent drug use research. For example, Johnson and coworkers (1987) found that integrated differential association and situational group pressure notions satisfactorily explained the role of peers in the etiology of drug abuse. In a similar way, Krohn (1974), Jacquith (1981), and Kaplan and colleagues (1984) found the same effects. Peer group drug use and bonding also predict drug use in the empirical studies by Meier and Johnson (1977), Kandel (1978, 1985), Ginsberg and Greenley (1978), Jessor and coworkers (1980), Clayton (1981), Glynn (1981), Clayton and Lacy (1982), Krosnick and Judd (1982), Bank and colleagues (1985), Needle and coworkers (1986), Castro and colleagues (1987), Kandel and Andrews (1987), Newcomb and Bentler (1987), and Brook and coworkers (1990). However, the ISC model may be useful to apply to drug use because of its attempt to integrate different conceptual approaches to deviant behavior (including strain theory, which is less often applied to drug use) and because of its demonstrated applicability to both behaviors in the National Youth Survey (NYS) (Elliott and Huizinga 1984; Elliott et al. 1985).

Our analyses were based on the assumption that mainstream models of problem behavior are applicable to Hispanics. Like mainstream youth, Hispanics may face problems of getting along with their families and teachers, are subject to influences of peer pressures, and experience varying levels of frustration based on the extent of discrepancy between their aspirations and expectations. However, our analysis focused on how subcultural factors relevant to Hispanics and other minority groups interrelate with factors drawn from the ISC model.

As in ethnographic studies of African-American populations, some studies of Hispanic problem behavior have followed the general approach of examining the influence of subcultural norms on delinquency and other behaviors (Horowitz 1982; Moore 1978). However, in examining Hispanic subcultural influences, a more common approach is found in the concept of acculturation, which refers to the social psychological process whereby immigrants and their offspring change their behavior and attitudes toward those of the host society as a result of contact and exposure to the new dominant culture (Berry 1980; Padilla 1980). The importance of the concept lies in its ability to capture an important psychosocial aspect of the immigrant experience, the problem of meeting the normative demands of two different cultures. Because it involves conflict and stress, acculturation has been linked to dysfunctional behavior (Anderson and Rodriguez 1984; Rogler et al. 1991; Szapocznik and Kurtines 1980; Szapocznik et al. 1980).

How is acculturation linked to problem behavior? In one conceptualization, immigration is seen as disrupting adherence to the country of origin's values, norms, and social bonds, one of whose functions is to inhibit dysfunctional behavior. For most immigrant groups, acculturation involves adaptation from

a traditional culture, which provides controls on behavior, to the more modern American culture, which places fewer restraints on nonconventional behavior. Unacculturated families may lack knowledge of accepted behavior norms in the United States and, therefore, may be less likely to socialize their children adequately, which in turn may influence problem behavior by weakening family and school bonds. Evidence for this hypothesis is provided by studies finding higher rates of alcohol and other drug use, suicide, eating disorders, and other problem behaviors among acculturated and/or second-generation Hispanics (Sorenson and Golding 1988; Caetano 1987; Gilbert 1987; Pumariega 1986; Buriel et al. 1982; Graves 1967).

A closely related conception focuses on the relationship between acculturative stress, intergenerational conflict, and problem behavior. Immigration may generate stress as immigrants try to adapt to and resolve differences between the old and new cultures (Vega et al. 1985a, 1985b; Born 1970). For example, in their study of drug use among adolescent Cuban-Americans, Szapocznik and associates suggest that the discrepancy between the parents' and adolescents' level of acculturation will cause conflict for the adolescent and, therefore, a greater dependency on the peer group (Szapocznik and Kurtines 1980; Szapocznik et al. 1980). (See also Fitzpatrick [1971] with respect to delinquency among Puerto Rican youth and Beauvais and colleagues [1985] with respect to drug use among American Indian youth.) Adolescents in this situation may turn to drug use as a way of resolving acculturation conflicts with parents. In contrast to theories that view imbeddedness in traditional culture as inhibiting problem behavior, the biculturalism hypothesis asserts that those competent in negotiating the contradictory demands of both cultures should behave less dysfunctionally than those oriented to either Hispanic or American culture.

In several analyses, Rodríguez and Recio (in press), Rodríguez and colleagues (1990), and Rodríguez and Weisburd (1991) addressed the applicability of the ISC model to drug use and delinquency among inner-city Puerto Rican youth, focusing on the following two research questions.

First, would the factors operate among Puerto Rican adolescents in the same way as among mainstream youth, that is, with the same correlative strengths and in similar interrelationships? A related question is, would the factors operate similarly with respect to drug use and delinquency? It was hypothesized that two aspects of the sociocultural situation of Puerto Rican adolescents—the significance of the family in Puerto Rican culture and the relationship between conventional institutions and peer groups in the inner city—would influence the interrelationships among family, school, and peer involvement and their effects on deviant behavior (Rodríguez and Weisburd 1991). The sociological and anthropological literatures have often noted the influence of Hispanic family norms and values in Puerto Rican society (Roberts and Stefani 1949; Rogler

1978; Rogler and Hollingshead 1985) and the relevance of the Hispanic family for instrumental and emotional support (Recio 1975; Rogler and Cooney 1984). The family was expected to have a stronger influence among Puerto Ricans than was the case for the national sample. By implication, it was expected that peer involvement would be less important.

The inner-city character of the Puerto Rican sample suggested that conventional institutions would have different effects on peer groups than the effects expected for a mainstream population. Conventional institutions in the inner city may control adolescents through individual rather than collective action (Suttles 1955). As inner-city institutions, the family and school may exert less control over adolescent behavior in the street than is the case in other communities because there is likely to be less communication between these institutions. Consequently, inner-city youth may be more able than other youth to keep separate their actions in school, the family, and the peer groups. Thus, in contrast to what Elliott and associates (1985) found for mainstream adolescents, among Puerto Rican adolescents the family and school were expected to have direct negative effects on drug use.

A related issue concerned the relationship between alcohol and other drug abuse and delinquency. Our analysis focused on whether the relationship was spurious or causal (Elliott and Ageton 1976; Gandoossy et al. 1980; Inciardi 1981; Collins 1981; Watters et al. 1985; White 1990). Either both behaviors are elements in a concurrent pattern of behaviors (Kandel 1980; Jessor and Jessor 1977) or both behaviors are explained by a common cause (White et al. 1987; Elliott et al. 1985). The ISC model has been shown to be equally applicable to drug use and delinquency; that is, the factors have similar strengths and interrelationships. The authors expected the same with respect to Puerto Rican adolescents.

Second, how would acculturation, the major factor identified in examinations of Hispanic adolescent deviance, interrelate with the ISC factors? Two hypotheses were entertained. One was that adherence to traditional Hispanic culture would inhibit deviance through the greater role accorded to institutional authority, as embodied by parents and teachers. Thus, the authors theorized that acculturation would exert powerful but indirect effects on drug use and delinquency through its influence on conventional and deviant peer bonding. Acculturated youth would be less bonded to their families and schools and more bonded to deviant peers and, thus, would be more likely to engage in drug use and delinquency. In a second and contrasting hypothesis, we assumed that biculturally involved youth would be less likely to engage in drug use and delinquency. Figure 1 summarizes the hypothesized extension of the ISC model that guided our analyses.

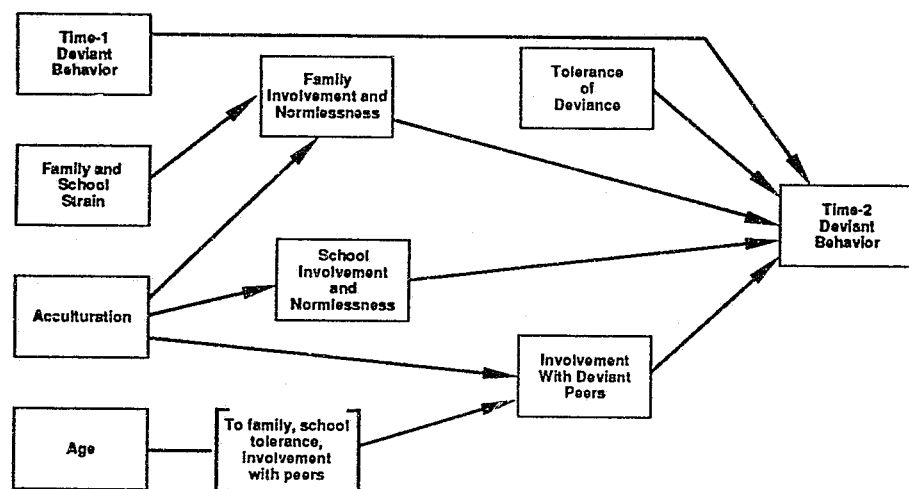


FIGURE 1. Extension of ISC model to Puerto Rican adolescents

METHODS

The authors attempted to answer these questions in the Puerto Rican Adolescent Survey (PRAS), whose analyses are summarized here and amplified by indepth examinations of the model.

The PRAS is a two-wave (1986 and 1987) representative sample survey of 12- to 19-year-old Puerto Rican males from the South Bronx, NY (Rodriguez 1991). Sampling yielded 1,170 eligible males, 1,077 of whom (92 percent) agreed to participate in the study. Respondent loss in the second wave was less than 17 percent, resulting in an overall response rate of 76 percent.

The NYS was based on a probability sample of adolescents ages 11 to 17 in the continental United States. The first wave consisted of 1,725 adolescents and represented 73 percent of all eligible youth selected for participation. Analysis focused on 869 males in the first and second waves. The data used for this study came from the first two waves, 1976 and 1977, obtained from the archives of the Inter-University Consortium for Political and Social Science Research. Both studies used the same data gathering procedures and the same measures (Elliott et al. 1983; Rodriguez and Weisburd 1991). In both surveys, information was self-reported in confidential face-to-face interviews, which occurred in most instances in the respondents' homes. Respondents were guaranteed anonymity and confidentiality, and all data collected were protected by a Certificate of Confidentiality from the U.S. Department of Health and Human Services.

Our analysis replicated Elliott and coworkers' (1985) measures. The predictive measures were family strain and school strain, family normlessness and school normlessness, family involvement and school involvement, attitudes toward deviance, involvement with drug-using peers, and previous drug use and delinquency. Two measures of drug use in the second interview year were used as separate final dependent variables. The first replicates Elliott and colleagues' study, based on self-reported use of five hard-core drugs. The second measure adds other serious drugs such as cocaine and crack, as well as marijuana and alcohol. The first measure was used to compare the PRAS and NYS samples, whereas the second, not replicable in the national data, was used to further analyze the PRAS sample. The delinquency measure was also drawn from Elliott and coworkers' measures and is based on self-reports of 26 felony and less serious offenses. The model was extended by adding age, an important control variable in adolescent deviance research, and measures of acculturation and biculturalism. Szapocznik's scale (Szapocznik et al. 1978) was included as a measure of acculturation and biculturalism. The same items were used in both measures, but in the latter, middle responses, denoting acceptance of both U.S. and Hispanic culture, were assigned the highest value. Table 1 shows how the measures used in the analysis were defined and constructed. Variable means and deviations are shown in table 2. The numbers after the variables indicate the time order (i.e., Wave 1 or Wave 2) posited by Elliott and colleagues (1985). Both the ISC predictors and acculturation scales yielded adequate alpha coefficients in reliability tests (Elliott et al. 1985; Szapocznik et al. 1978).

RESULTS

Application of the ISC Model to Puerto Rican Youth

Two aspects of the sociocultural situation of Puerto Rican adolescents were hypothesized to influence the interrelationships among the factors in the ISC model: the significance of the family in Puerto Rican culture and the greater social distance between conventional institutions and the peer group in the inner city. Family involvement and family normlessness were hypothesized to have stronger effects on drug use and peer involvement in the PRAS sample than in the NYS. Peer drug involvement was hypothesized to have a smaller effect in the PRAS sample. The inner-city character of the sample was expected to make the influences of the family and school on drug use more direct in the PRAS than in the NYS; therefore, the family and school indices were hypothesized to have stronger direct paths in the PRAS than in the NYS.

To test this, Rodriguez and Recio (in press) replicated Elliott and coworkers' (1985) analyses with the PRAS sample. As Elliott and colleagues had done, Rodriguez and Recio applied the full model, with the addition of age (see figure 1), which, along with the strain variables, appears in the earliest part

TABLE 1. *Measures and definitions of variables used in analysis*

Variable	Definition
Drug use	First and second waves: Frequency over 12 months prior to interview in using cocaine, LSD, barbiturates, amphetamines, and heroin. For the PRAS sample, a second measure of Wave 2 drug use: frequency of use during the past year of tobacco, alcohol, marijuana or hashish, hallucinogens, inhalants, phencyclidine (PCP), tranquilizers, amphetamines, barbiturates, crack, cocaine, heroin, opium, and other narcotics.
Delinquency	Elliott and coworkers' General Delinquency Scale, based on 26 items from self-reported delinquency scale, including Uniform Crime Report Part I offenses, minus a sexual intercourse item. Frequency of committing offenses over past 12 months. Nine categorical responses ranging from 1 for "none" to 9 for "2-3 times a day" were also used.
Involvement with deviant peers	Product of Peer Involvement Index \times (Peers' Deviance Index—mean). Peer Index, Drugs: How many of the respondent's friends used (1) marijuana or hashish and (2) prescription drugs, for example, amphetamines or barbiturates, when there was no medical need for them during the past year? Response categories ranged from "all of them" (5) to "none of them" (1). For delinquency, the same procedure was used with respect to 10 index offenses. A summary score was obtained by adding responses. Peer involvement: Extent of time spent with peers on (1) weekday afternoons, (2) weekday evenings, and (3) weekends. Responses ranged from (1) none to (6) five weekdays and from (1) none at all to (6) a great deal on weekends.
Attitudes toward deviance	Asks the respondent to state how wrong are six delinquent acts, with four responses ranging from "very wrong" to "not wrong at all." A score was obtained by summing over the three items for each scale, with a high score reflecting a conventional orientation.

TABLE 1. *(continued)*

Variable	Definition
Family and school normlessness	Extent to which the respondent views his relationship to family and school as governed by conventional norms or as requiring a transgression of these norms. The scale assesses "subject's commitment to conventional social norms" (Elliott et al. 1985). The family normlessness scale contains four items; the school normlessness scale contains five items. The questions ask for the extent of the respondent's disagreement with items, for example, "it is important to be honest to your parents, even if they become upset or you get punished" and "to stay out of trouble, it's sometimes necessary to lie to teachers." Five responses, ranging from "strongly agree" to "strongly disagree." A score was obtained by summing over the number of items for each scale, with a high score reflecting commitment to conventional norms.
Family and school involvement	Amount of time spent with the family and in academic activities at school. For each scale, three questions ask the respondent to report the number of afternoons and evenings in an average week, Monday through Friday, and the time spent on weekends in each setting. The first two items in each scale use an open-ended response set (from 0 to 5 afternoons or evenings), whereas the item on weekend involvement uses a 5-point Likert scale ranging from "a great deal" to "very little." A score was obtained by summing over each scale, with a high score reflecting a high level of involvement.
Home and school strain	Extent of reported discrepancy between aspirations and expectations in each of five aspects of family and school life (e.g., "getting along with your parents"). The aspiration question has three responses: "very important," "somewhat important," and "not important at all," and the expectation question has three responses: "very well," "O.K.," and "not well at all." Responses to the two questions were cross-classified to construct a six-point discrepancy scale, with 1 indicating the lowest strain ("very important"—"very well") and 6 indicating the highest strain ("very important"—"not well at all"). A score was obtained by summing over the five items for each scale.

TABLE 1. (continued)

Variable	Definition
Acculturation	Acculturative Behavior scale x Cultural Preferences scale. First scale measures extent of adherence to American vs. Hispanic cultural traits such as language used with family and friends, ethnicity of friends, and ethnic self-identification—responses ranging from 1 to 5 (e.g., "speak Spanish only" to "speak English only"). Cultural Preferences scale measures extent of enjoyment of American music, radio, television, and dances; there are four items with responses ranging from 1 to 5 ("not at all" to "very much").
Biculturalism	Acculturative Behavior scale + Cultural Preferences scale. Same items as in acculturation scale but with responses recoded so that middle response is given the highest value. For example, language spoken with family is recoded so that 1="only English" or "only Spanish," 2="mostly English" or "mostly Spanish," and 3="both English and Spanish."

of the model. These variables are followed by measures of family and school involvement and normlessness. Finally, to explain involvement with drug use, the model includes attitudes toward deviant behavior, involvement with drug-using peers, and drug use at an earlier period, along with variables entered earlier in the model.

As summarized in columns 1 and 2 of table 3, results were similar for both samples. (In all tables, R-square results are significant at the .001 level. To make comparisons between the two samples possible, all tables show only unstandardized regression coefficients [Hanushek and Jackson 1977]; only the final path results are shown in the tables.) In both samples, direct paths leading to self-reported hard-core drug use were from involvement with deviant peers and prior use. (In addition, in the NYS, attitudes toward deviance had a direct effect when age was added to the model.) The strain variables affected the conventional bonding variables, and these in turn affected involvement with deviant peers, but neither strain nor conventional bonding variables directly influenced drug use or delinquency. However, a different causal pattern, more in line with predicted effects, appeared when the operation of the ISC factors was examined on a more inclusive measure of drug use (column 3 of table 3). Family and school involvement had significant direct effects, but these variables

TABLE 2. Means and standard deviations of variables

Puerto Rican Adolescent Survey			
Variable	Mean	Standard Deviation	N
Hard-core drug use 2	.18	1.2	898
Hard-core drug use 1	.28	1.5	1,065
Use of all drugs 2	23.20	34.5	888
Delinquency 2	25.90	4.9	898
Delinquency 1	26.10	4.8	1,065
Involved with drug peers	.13	16.3	893
Involved with delinquent peers 2	2.80	85.7	886
Attitudes toward deviance 2	21.80	2.7	898
Family normlessness 1	9.10	2.5	1,073
School normlessness 1	12.30	2.7	1,075
Family involvement 2	13.20	4.0	898
School involvement 2	7.70	4.6	898
Family strain 1	13.40	5.1	1,048
School strain 1	15.00	4.7	1,047
Acculturation 1	413.60	96.6	1,065
Biculturalism 1	23.30	4.7	1,071
Age	15.60	2.2	1,071

National Youth Survey			
Variable	Mean	Standard Deviation	N
Hard-core drug use 2	.29	1.3	868
Hard-core drug use 1	.33	2.6	869
Delinquency 2	26.60	6.1	868
Delinquency 1	26.80	5.5	869
Involved with drug peers	2.90	31.7	721
Involved with delinquent peers 2	19.40	62.9	718
Attitudes toward deviance 2	30.00	4.6	869
Family normlessness 1	9.10	2.5	864
School normlessness 1	11.50	2.7	858
Family involvement 2	12.90	3.5	867
School involvement 2	9.20	3.2	852
Family strain 1	13.30	4.6	866
School strain 1	14.80	4.0	857
Age	13.90	1.9	869

TABLE 3. *ISC model applied to drug use and delinquency; NYS and PRAS full-model unstandardized ordinary least-squares estimates*

Variable	Hard-Core Drugs		All Drugs		Delinquency	
	NYS (1)	PRAS (2)	PRAS (3) ^a	NYS (4)	PRAS (5)	
Hard-core drug use 1	.375*	.242*	3.53*	—	—	
Delinquency 1	—	—	—	.356*	.342*	
Involved with deviant peers 2	.011*	.014*	.371*	.043*	.022*	
Attitudes toward deviance 2	-.025**	-.031	-.890***	-.153*	-.098	
Family normlessness 1	-.010	.005	-.035	-.007	-.021	
School normlessness 1	-.008	.004	.080	-.116	.062	
Family involvement 2	-.009	-.005	-.585***	-.079	-.116***	
School involvement 2	-.011	-.007	-1.14*	.032	-.095**	
Family strain 1	-.003	-.007	.003	-.043	-.026	
School strain 1	-.001	.008	.120	.032	-.022	
Age	-.026	.016	3.85*	-.347*	-.338*	
R-square	.30	.17	.25	.48	.37	

*p<.001; **p<.01; ***p<.05

^aColumn 3 is based on a more inclusive measure of drug use than column 2 (see text).

were not significant in the NYS. Thus, the effect of family involvement was much higher when more comprehensive drug use was examined. On the other hand, counter to expectations, the magnitude of the peer involvement coefficient was higher in the PRAS sample with all drugs than in the NYS with only hard-core drugs. The analyses also revealed differences in the roles of prior drug use and age. In the PRAS sample, prior drug use showed a much stronger effect when other drugs were included, and age had a positive direct effect on drug use. The results provided preliminary verification of our assumption that Hispanic sociocultural characteristics need to be taken into account in the application of explanations derived from other populations.

In Elliott and associates' analyses, the ISC factors have remarkably similar effects on delinquency and drug use, which is also the case with the PRAS data, but there is no one-to-one correspondence in the path coefficients of factor effects on delinquency and drug use. In previous analyses, Rodriguez and Weisburd (1991) applied the ISC model to delinquency among the PRAS sample. Their analysis tested and partially verified the proposition that the sociocultural character of this population would lead to a stronger effect of family and direct effects of family and school factors on delinquency. Columns 4 and 5 of table 3 summarize the results of applying the ISC factors to delinquency in the PRAS and NYS samples. In the results shown in table 3, age was added to the model, whereas Rodriguez and Weisburd's earlier analysis exactly replicated Elliott and colleagues' model.

The results showed the divergent effects of the ISC factors in the two samples, but also showed within-sample similarities with respect to the ISC factors' effects on drug use and delinquency. Interestingly, the inclusion of age in the regressions significantly improved the predictive power of the ISC model and strengthened the roles of family and school bonding as direct influences on delinquency and drug use among Puerto Ricans, thus accentuating the differences between the factors' operation in the PRAS and NYS samples. An interesting finding was the effect of age on delinquency and drug use. Age had a negative effect on delinquency and a positive effect on drug use. The findings are in line with previous findings on the modal ages of involvement with delinquency and drug use, which indicate that delinquent involvement precedes drug use (Kandel 1978).

Interrelationships Between Acculturation and ISC Factors In Explanations of Puerto Rican Drug Use and Delinquency

The authors' model attributes direct and strong effects to the family and peer influence variables drawn from Elliott and coworkers' ISC theory (1985). However, we expected acculturation (or biculturalism) to have strong but indirect effects on family, school, and delinquent peer bonding.

To test this, the authors added Wave 1 acculturation as an endogenous variable to Elliott and coworkers' full ISC model (figure 1). Acculturation was hypothesized to influence drug use and delinquency through its effects on the family, school, peer, and deviant attitude measures. Table 4 shows results from the first path equation, adding acculturation to the ISC factors. Acculturation had indirect effects on drug use on factors related to conventional and deviant peer bonding. In intermediate path results not shown in the table, acculturation had significant effects on family involvement and involvement with peers who are deviant. (Figure 2 illustrates all significant paths in the drug use regressions.) The direction of effects was as expected. For example, acculturated youth were less involved with their families and were more involved with deviant peers. However, two unexpected findings are underscored in the final path results shown in table 4. First, acculturation also had strong direct effects on drug use. Second, the direct effects of acculturation applied only to drug use, not to delinquency. Our analysis did not substantiate the predicted effects for biculturalism, the measure of which did not have significant effects on either delinquency or drug use. The predicted indirect effects were also not borne out. Bicultural youth were less bonded than monocultural youth to school and family and were more bonded to deviant peers.

DISCUSSION

The analyses reported in this chapter address the broad question of how to integrate mainstream and subcultural explanations of drug use and other problem behaviors. Concretely, these analyses examined the applicability of the ISC model to inner-city Puerto Rican youth and determined whether the model can be extended by ascertaining its factors' interrelations with acculturation and biculturalism. Generally, the ISC model developed by Elliott and associates is applicable to Puerto Rican drug use and delinquency. Both studies converge on showing direct effects of prior drug use, tolerance of deviance, and peer involvement on delinquency and drug use. However, the Puerto Rican findings provide support for the predictions based on prior ethnicity and inner-city research. Consistent with the importance of family in Puerto Rican culture, family involvement had significant direct effects. In addition, the data confirm the prediction that school factors would also have direct effects on drug use, based on the assumption that family, school, and peers are more distinct from each other in inner-city environments than they are in white, middle-class communities.

Examining delinquency and drug use in each sample provided some insights into the complex issue of the causation involved with both types of behaviors. In the NYS sample, the ISC factors operate uniformly on both behaviors. More differences are evident in the PRAS sample, with our subcultural predictions more appropriate to drug use than to delinquency. However, Rodriguez and

TABLE 4. *Extended ISC model applied to drug use and delinquency; PRAS full-model unstandardized ordinary least-squares estimates*

Variable	Drug Use	Delinquency
Hard-core drug use 1	3.627*	—
Delinquency 1	—	.342*
Involved with deviant peers 2	.350*	.022*
Attitudes toward deviance 2	-.901***	-.092
Family normlessness 1	-.158	-.020
School normlessness 1	.169	.062
Family involvement 2	-.502	-.119*
School involvement 2	-1.111*	-.097**
Family strain 1	.060	-.027
School strain 1	.092	-.023
Age	4.003*	-.348*
Acculturation	.038*	-.001
R-square	.26	.37

*p<.001; **p<.01; ***p<.05

colleagues (1990) found more disparate results in the PRAS sample when they examined specific types of delinquent offenses.

In interpreting the analysis results, some limitations of the data should be kept in mind. The few Time-1 drugs asked about somewhat constrains the generalizability of results. As in many self-report surveys, there may be underreporting of drug use, a fact that probably affected the proportion of variance explained in both data sets. The restriction of the PRAS data to males also limits comparison of results with the NYS sample. Nonetheless, these limitations are offset by the opportunity the data provide to compare the etiology of drug use between an important minority group and a national sample.

The findings confirm the important role that has been theorized for acculturation in Hispanic problem behavior (Anderson and Rodriguez 1984; Szapocznik and Kurtines 1980; Szapocznik et al. 1980) and in the behavior of other minority groups (Beauvais et al. 1987; Oetting et al. 1988). Because many may find the link between deviance and acculturation to U.S. society to be counterintuitive, the findings also lend credence to the notion that adherence to traditional Hispanic culture provides protection against dysfunctional behavior. However, the lack of direct effects with respect to delinquency shows some limitations in the explanatory power of acculturation. Acculturation concerns the extent to

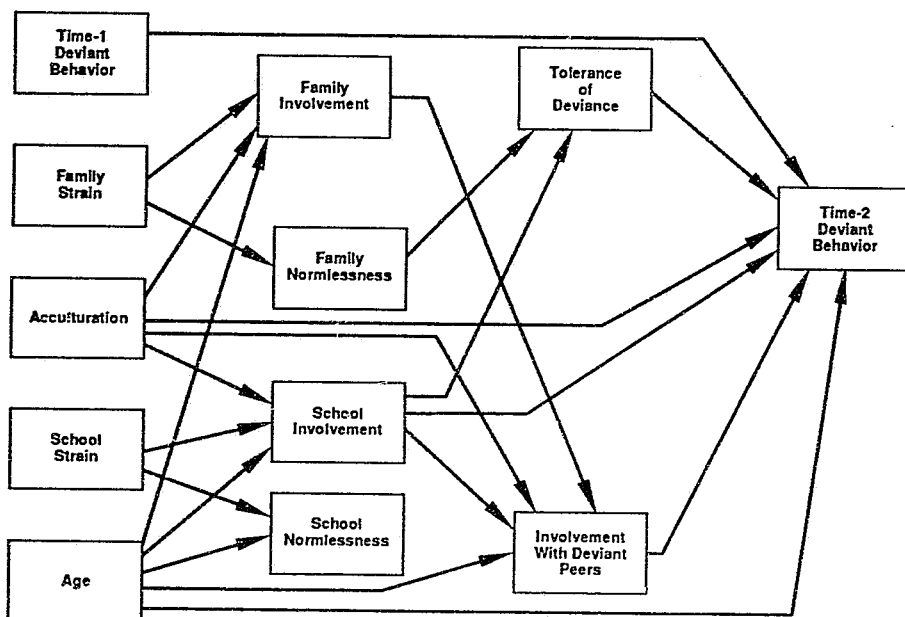


FIGURE 2. Extended path model of drug use significant path models in PRAS data

which a person can resolve dilemmas of self-identity. Drug use may involve the expression of internal conflicts or psychic dilemmas more than delinquency, many of whose behaviors involve instrumental aims. Thus, there may be a greater psychological link between acculturation and drug use than with respect to delinquency.

It is also of particular interest that this analysis finds no attenuating effect of biculturalism on deviance. This is in contrast to Szapocznik and associates' assertions (1980) concerning adjustment among Cuban adolescents. However, they focused on a different problem behavior and examined a majority first-generation population, whereas this sample is primarily second generation, which may have had an effect on the saliency of acculturation as a problem behavior-related issue. Discrepant findings in this area call for more sensitive measures of acculturation and biculturalism (Rogler et al. 1991).

The findings support the theoretical strategy guiding the authors' analysis of Hispanic drug use and delinquency. Results indicate that theories such as the ISC model are applicable to minority groups' experiences. At the same time, subcultural concepts that emerge from minority groups' sociocultural

experiences are also useful and can enhance mainstream models. Thus, the results suggest the utility of examining minority youth deviance within mainstream conceptual frameworks and extending these frameworks by integrating them with concepts relevant to the sociocultural reality of minority groups.

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