

**CONDUCTING
DRUG
ABUSE
RESEARCH
WITH
MINORITY
POPULATIONS**

Mario R. De La Rosa, PhD
Bernard Segal, PhD
Richard Lopez, PhD
Editors

ADVANCES AND ISSUES

Conducting Drug Abuse Research with Minority Populations: Advances and Issues

*Conducting Drug Abuse Research with Minority Populations:
Advances and Issues* has been co-published simultaneously as
Drugs & Society, Volume 14, Numbers 1/2 1999.



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Conducting Drug Abuse Research with Minority Populations: Advances and Issues

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Foreword

PURPOSE

The purpose of this book is to provide a forum for drug abuse researchers to describe and discuss their experiences and concerns in their conduct of research on the drug-taking¹ behavior of minority populations.² The information and ideas presented in this collection emanate from the many years of experiences that the authors have in conducting drug abuse research with minorities. The information and ideas presented have also been influenced by the authors' personal experiences of growing up and living in a minority community or their personal experiences while working with those living in those living in minority communities. Each of the authors discuss specific theoretical or methodological issues and concerns which they consider of significance in their research with minority populations. Also, each of the authors provide in their papers recommendations and strategies concerning how to be more effective and efficient when conducting research with minority populations.

Imbedded within all the authors' discussions is the central issue of understanding the impact of cultural values, attitudes, and norms in the drug-taking behavior of minority persons and in the conduct of drug abuse research with minority populations. A second overarching issue which the authors consider is the importance of community involvement or participation in drug abuse research studies that focus on minority populations. The editors of this collection anticipate that the information and ideas presented by the authors will be used by new and experienced drug abuse

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researchers to enhance their abilities to conduct meaningful drug abuse research with minority populations. To that end, this publication seeks to improve and expand our current state of knowledge regarding drug abuse research with minority populations.

BACKGROUND AND JUSTIFICATION

During the past decade, research on the etiology³ of drug abuse among minority populations has yielded a wealth of information on some of the underlying factors responsible for the drug abuse behavior of minority persons. This research has determined that Hispanic⁴ and African-American youth⁵ who use drugs are more likely to come from impaired families where the use of drugs is more common than Hispanic and African-American youth who do not use drugs (De La Rosa & White, in press; Brook, 1996; Blackmore-Gomez, 1996). Data from this research also have indicated that Hispanic and African-American youth who use drugs have lower self-esteem than Hispanic and African-American youth who do not use drugs (Warheit et al., 1995).

The results from these studies also have suggested that Hispanic and African-American youth who use drugs are more likely to have peers who use drugs than Hispanic and African-American youth who do not use drugs (Rodriguez, 1995; Thornberry, 1996; Valdez, 1996a). In addition, research has shown that Hispanic and African-American youth who do not attend religious services are more likely to use drugs than Hispanic and African-American youth who attend religious services (Chard-Wierschew, 1996; Wallace, 1996). Further, research on the drug taking behaviors of Hispanic youth has revealed that Hispanic youth who have stronger linkages with their cultural heritage are less likely to use drugs than Hispanic youth with weak linkages to their culture heritage⁶ (Gil & Vega, in press; Vega, 1996a, 1996b).

Despite these research advances, significant gaps remain in understanding the etiology of drug use among minority populations. One major gap is the lack of theory-driven research on the impact that societal and community level⁷ variables have on the drug-taking behavior of minority persons. A second major deficiency is the lack of studies that investigate resiliency⁸ factors in preventing or reducing the use of drugs among minority populations. These research limitations are, to a large extent, due to the theoretical orientations of past etiological drug abuse research with minority and non-minority populations. This prior research resulted from theoretical models of risk-taking behaviors that focus on the investigation of the impact of individual level social psychological variables on the drug using

behavior of minority as well as non-minority persons (see Jessor's problem behavior theory, 1997; Aker's learning theory, 1977; Kaplan's self derogation model, 1975; Kandel's socialization approach, 1975; Brook's family interactional approach, 1990; Hawkins and his colleagues' social development model, 1992). Yet, the impact that resiliency factors and societal and community level factors have on the drug using behaviors of minority populations have until recently remained unexplored (De La Rosa, Recio-Adrados, Kennedy, & Milburn, 1993). A third major problem is the lack of theory driven research on the etiology of drug use among Asian/Pacific Islanders,⁹ American Indian,¹⁰ and Alaskan Native¹¹ populations (De La Rosa et al., 1993). These research limitations are mainly due to the fact that until recently most drug abuse research on minority populations has focused on studying the etiology of drug abuse among Hispanic and African-American populations.

Similarly, while there has been progress to improve data collection techniques¹² for research in the drug abuse field with the general population, serious deficiencies in research methodology, nevertheless, continue to plague studies of minority populations (De La Rosa et al., 1993). No clear guidelines exist to advise drug abuse researchers on the development of effective strategies to access, recruit, and retain minority populations in research studies. Moreover, little information exists to guide the efforts of drug abuse researchers to involve members of the community in research studies as a technique to improve their data collection activities with minority populations.

This lack of guidance in the development and implementation of drug abuse research with minority populations comes at critical time in the evolution of this area of research. Efforts by the National Institute on Drug Abuse (NIDA) during the past decade to increase the number of funded studies that focus on the drug-taking behaviors of minority populations, have resulted in a resurgence of interest in this topic. These efforts have led to the funding of drug abuse research studies that consider such issues as: (1) the impact of the crack use/trade on the well-being of minority communities; (2) the relationship between intravenous drug use and HIV infection among African-American and Hispanic drug users; and (3) what role familial factors, cultural values and attitudes, peer influences, and affiliation to religious institutions have on the drug-taking behavior of Hispanic, African-American, Asian/Pacific Islander, and American Indian youth (National Institute on Drug Abuse, 1996a).

The need to develop guidelines to conduct drug abuse research with minority populations also comes at time when recognition by the scientific community of the need to expand minority participation is increasing

within all behavioral and biomedical research. The National Institutes of Health (NIH) stressed the scientific community's concern in this area when in 1994 it issued strict guidelines that require, absent a clear scientific rationale for their exclusion, that all research it funds include women and persons of ethnic/racial minority populations (*Federal Register*, March 28, 1994).

Further, the need to develop guidelines to conduct drug abuse research with minority populations comes at a time when drug abuse researchers increasingly report difficulty in gaining the trust and participation of minority persons and communities in their studies (National Institute on Drug Abuse, 1996b).

This distrust toward drug abuse researchers may be due to the recognition by leaders in minority communities that participation by such communities in drug abuse studies has resulted in little or no benefit to their communities (National Institute on Drug Abuse, 1996b). These leaders see that many drug abuse researchers come to their communities and, once they have collected their data, disappear. According to leaders in these communities, researchers often do not provide benefits to the community they are studying (i.e., funds, jobs, referrals to drug treatment or social services) in exchange for the community participation in their research.

Moreover, this distrust by minority persons toward drug abuse researchers may be due to the long-term negative experiences that minority populations have had with the scientific community in general. "Fueled by past experiences with the scientific community minority persons are in many instances reluctant to allow access to drug abuse researchers into their communities" (Debro & Conley, 1993, p. 343). The increased reluctance of minority persons to participate in drug abuse research studies may also lie in their fears that any information they provide to drug abuse researchers could be used against them. These fears may be stronger among minority persons who have the most to lose and the least to gain by providing information on their illicit drug use behaviors to researchers, persons such as illegal immigrants, welfare recipients, and drug dealers/users. For example, Hispanic or Asian/Pacific Islander illegal immigrants may be reluctant to participate in drug abuse studies for fear that the information they provide to researchers will be used to deport them from the country. Moreover, drug dealers and users may be reluctant to provide information on their drug using and dealing to researchers for fear that law enforcement officials may use this information to incarcerate them.

This renewed and expanded interest to investigate the etiology of drug use among minority populations, and the need to develop guidelines for the conduct of drug abuse research with these populations, led to a meet-

ing sponsored by NIDA. The purpose of this meeting was to discuss theoretical and methodological issues and concerns that affect etiologic drug abuse research in minority populations. The meeting was held in Washington, D.C. on September 26-27, 1996. Six panels composed of 20 researchers presented information that emanated from their research on minority populations, and discussed the lessons they learned from their research endeavors. The completed and edited manuscripts from this meeting form the basis for this book.

OUTLINE

This collection is divided into two parts. Part I consists of two topical sections. The first section of Part I focuses on theoretical advances and issues. Included in this section are papers by Brunswick, Wallace, Su, and Vega and Gil. The second section of Part I focuses on community involvement advances and issues. Included in this section are papers by Baldwin, Delgado, and Sterk. Part II also consists of two topical sections and a final component that sets forth conclusions and recommendations. The first section of Part II focuses on access, recruitment, and retention advances and issues. Included in this section are papers by Dunlap and Johnson; Nemoto, Huang, and Aoki; Beauvais; Krohn and Thornbery; and Valdez and Kaplan. The second section of Part II considers training advances and issues. Included in this section are papers by Alegría and Vera, and Grills and Rowe. In the conclusions and recommendation section, De La Rosa, White, Segal, and Lopez offer their comments on the subject matter and advise for future epidemiologic drug abuse research with minority populations. Each section of this publication commences with a brief introduction to the salient issues which the authors address and an overview to the articles that constitute the section.

CONCLUSION

Developing a more scientific foundation for the conduct of drug abuse research with minority populations is important to the well-being of our society. Drug abuse continues to be a serious problem that affects our society; it is particularly evident in many inner city minority communities. Moreover, data from several National Drug Abuse Surveys suggest that drug abuse is becoming an even more serious problem for minority youth than it is for non-minority youth (Johnston et al., 1995; Johnston et al., in

press). Further, data from a number of local community-based studies also provide ample evidence of the devastating consequences of drug use/dealing on the economic and social well-being of minority communities. The contents of this book, however, do not reflect the wealth of drug abuse prevention and intervention efforts in minority populations across the country. Many of the efforts of local communities go unnoticed, and information about their work goes unpublished.

With minority populations playing an increasingly active role in the social, economic, political, and cultural life of the United States, efforts to better understand the drug using behavior of minority populations present a clear and urgent need. This book is a step toward that goal. The scientific papers included in this collection attempt to lay the foundation for more reliable and comprehensive research on the drug using behavior of minority populations.

Mario R. De La Rosa, PhD

Bernard Segal, PhD

Richard Lopez, PhD, JD

NOTES

1. The term “drug taking” refers to the lifetime, past month, and weekly use of alcohol and other illicit drugs, such as marijuana, cocaine, heroin, and PCP.

2. The term “minority populations” refers to individuals of African-American, American Indian/Alaskan Natives, Asian/Pacific Islander, and Hispanic ancestry.

3. The term “etiology” refers to underlying or causal factors responsible for the drug using behaviors of minority populations (e.g., self-esteem, parental drug use, peer drug use, family support, school support, family economic conditions, etc.).

4. The term “Hispanic” refers to individuals of Cuban-American, Mexican-American, Puerto Rican, and South and Central-American ancestry, regardless of race, who live in the mainland United States and the island of Puerto Rico.

5. The term “youth” refers to individuals aged 13 to 21.

6. The phrase “cultural heritage” refers to the mores and beliefs that help to determine behavior or thinking toward specific issues or problems, such as drug abuse. It does not include the issue of acculturation or assimilation into a culture.

7. The phrase “societal and community level variables” refers to such factors as poverty; racism; employment opportunities; lack of good schools, housing, and clean streets; availability of drug networks in neighborhoods; lack of proper law enforcement efforts to deal with drug dealing/using; lack of community recreational facilities and neighborhood youth sport activities; lack of residents’ involvement in the political, social, and economic activities of their communities; etc.

8. The term “resiliency” refers to factors that protect an individual from the use of drugs (e.g., strong and warm parent-child relationships, no drug use in the family, peers who do not use drugs, effective school and community drug prevention programs, high self-esteem, high attendance in religious services, etc.).

9. The term “Asian/Pacific Islander” refers to individuals of Chinese, Japanese, Filipino, Indian, Vietnamese, Korean, Cambodian, Thai, Malaysian, Burmese, and Polynesian ancestry.

10. The term “American Indian” refers to individuals belonging to one of the more than 200 Indian tribes in the United States (e.g., Seminole, Sioux, Cherokee, Blackfoot, Navajo, Hopi, etc.).

11. The term “Alaskan Native” refers to the indigenous peoples of Alaska.

12. The term “data collection techniques” refers to the qualitative and quantitative methods and procedures utilized by researchers to access, recruit, retain, interview, and follow up of subjects in their studies.

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PART I



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THEORETICAL ADVANCES AND ISSUES

This section focuses on the presentation of theoretical models most appropriate to understanding drug behaviors of minority populations. These theoretical models share a number of common themes. The authors suggest that such a model should investigate: (1) the interactive effects of societal, community, and individual level psychosocial variables on the drug-taking behaviors of minority persons; (2) how the drug using and dealing activities of their residents impact the social and economic well-being of minority communities; (3) the relationship between drug use among Hispanic and Asian/Pacific Islanders and stress associated with their experiences of assimilation into American society; (4) the role of gender in the drug-taking behaviors of minority persons; and (5) the role of protective factors, as well as risk factors, in the drug-taking behaviors of minority populations. Included in this section are papers by Brunswick, Wallace, Su, and Vega and Gil.

Brunswick's paper posits the development of an integrative ecological system model that will serve as a theoretical framework for exploring drug abuse behavior among African-American individuals. Wallace's paper addresses the issue of economic disempowerment as an important variable which is directly related to the differential patterns of drug use found among middle class and lower income African-American youth. Su's paper discusses the need to develop a culturally relevant and multidimensional theoretical approach that can appreciate the drug using behavior of the various Asian/Pacific Islanders' population groups. Vega and Gil's paper proposes the development of an integrative model that assumes that the process of acculturation to American society plays a significant role in the drug-taking behavior of Hispanic youth.



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Structural Strain: An Ecological Paradigm for Studying African American Drug Use

Ann F. Brunswick, PhD

SUMMARY. Social structural factors (gender, age, income/wealth and geographic variations) are often ignored as descriptive or explanatory variables in drug studies. They are critical for differentiating drug use patterns, whether within an ethno-racial group or between ethno-racial groups. Within the African American community, specifically, drug involvement differences are best explained by heterogeneity in degrees of success in and attachment to mainstream social institutions (family, church, schools, workplace).

These considerations predominate in structural strain theory, offered here for explaining African American drug use patterns. An ecological model operationalizes the theory and posits three different interlinking levels of social influence on individual drug use behavior: social structural, institutional, and interpersonal networks (macrosystem, exo-

Ann F. Brunswick is Senior Research Scientist in Public Health/Sociomedical Sciences, Columbia University.

Research reported in this paper has been supported by the National Institute on Drug Abuse through research grants 5R18DAO3287 and 5R01DAO5142, Ann F. Brunswick, PhD, Principal Investigator. Theory and empirical findings discussed in this paper were derived from the Longitudinal African American Cohort study, which Dr. Brunswick has been directing for 30 years. Points of view and opinions expressed herein are those of the author, not of the NIDA.

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system, and microsystem, respectively). Findings then are presented from a 25-year study conducted with one community representative African American cohort that supports the importance of the structural strain premise in explaining African American drug use patterns. An example of study measures arrayed according to the ecological paradigm is provided. Finally, its utility is demonstrated in enumerating sources of error that have led to incomplete and sometimes contradictory findings regarding African American drug use. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworthpressinc.com]*

INTRODUCTION

Research designs too seldom have acknowledged the axiom that drug use is a complex behavior with multiple determinants. Determinants or influences on initiating, continuing, discontinuing, and, finally, terminating drug use derive from every level of social and individual organization. Levels of individual organization range from cellular to synaptic and neurotransmittal to, importantly, cognitive functions expressed in beliefs, goals, and expectations. Progressively more complex levels of social organization enter into the choice, duration, etc., of drug use. These include not only social networks of family, peer, school, work but also of community affiliations and of interactions with social institutions (school, health care, legal, criminal justice system, and so on). Less visible and, perhaps most powerful in the case of African Americans, are broader levels of social organization that reflect the allocation of social resources and time linked values and norms. These vary with ethno-racial, economic, gender, age, and geographic factors that stratify U.S. society.

The relative strength and interlinkage of individual and social influences varies with life stage progression which is experienced differently both by minority and majority groups and the men and women within them. Thus, adolescence, varyingly defined as to specific ages that it subsumes, has been identified uniformly in the U.S. as the critical life stage for onset of illicit drug use, with abatement of its use linked to subsequent assumption of adult roles and responsibilities. The age parameters for abatement of use also vary systematically with social stratification factors. Unless the complex, multi-causal nature of drug use behavior receives due credence and unless the resultant variations in patterns and determinants of that behavior receive due recognition, appropriate research programs and policy cannot be formulated. These are the issues that the following theoretical and methodological discussion addresses.

Historically, intra-individual factors in drug use have been, for the most part, the focus of theories of drug use. Psychology/psychiatry's classifica-

tion of drug use as “disorder” and sociology/criminal justice’s classification of drug use as deviant behavior are examples of this pattern.

Within the past two decades, perspectives on drug use have broadened with social learning theory (Rotter, Chance, & Phares, 1972). Problem behavior theory (Jessor & Jessor, 1977) and social control theory (Thompson, Smith-DiJulio, & Matthews, 1982) have gained a toe-hold in explanatory models. (See Brunswick, Messeri, & Titus, 1992 for a more detailed review of these and other theories of drug use.) While these encompass a broader view of drug use compared to earlier psychopathy/sociopathy models of drug use, they have not been explicated or tested specifically for their efficacy in explaining African American drug use patterns.

Finally, drug use patterns sometimes are linked to and explained by variations in stress (see Su in this book). Stress like drug use, however, implicates social structural determinants (e.g., age, gender, geography, socioeconomic status [SES]) which have been minimized in studies of stress (Turner, Wheaton, & Lloyd, 1995). This is a shortcoming of considerable magnitude when what is at issue is the behavior of a minority group, identified so strongly by their attributed and attained position in the social structures.

Socio-economic phenomena loom large in understanding African American drug use behavior, based on: (1) the out-migration of middle-class and/or other stable working African Americans from inner city communities (Wacquant & Wilson, 1989; Wilson, 1987) that has led to an absence of appropriate African American male role models in inner-city communities, and (2) the decline in blue collar and unskilled jobs traditionally filled by African Americans (Glazer & Moynihan, 1967; Kasarda, 1989; Wilson, 1987). These have resulted both in inner city African American male youths’ high actual rates of joblessness and in lowered expectations for future employment (Brunswick, 1980; Brunswick & Rier, 1995; Brunswick, Lewis, & Messeri, 1992; Brunswick, Messeri, & Aidala 1991; Brunswick, Messeri et al., 1992; Massey & Eggers, 1990; Swinton, 1989; Wilson, 1978). Further, African American youth’s employment and affiliation needs add to the functions drugs serve. This means that among young inner city African Americans drugs have posed an attractive alternative pathway for occupational and affiliation needs. Just as the concentration of the unemployed and impoverished in the inner cities have tended to produce a polarized African American community, patterns of drug use have been skewed following this schism.

In sum, a theory and model of African American drug use needs to adjust to the heterogeneity of a society in schism, the alternative economic functions served by drugs, and both the perceived and actual exclusion of segments of inner-city African Americans from the opportunity structure. As Brunswick and Rier (1995) previously noted:

Understanding the status of drug use in Black America today requires a perspective on the heterogeneous composition of the African American youth population, a group deeply and increasingly polarized—economically and, subsequently, socially—into segments of haves and have-nots. Managing drug use behavior similarly requires a changed perspective, in which it is seen as one symptom of a broader, underlying isolation from mainstream opportunities and rewards to which we have applied the term “structural strain.” (p. 240)

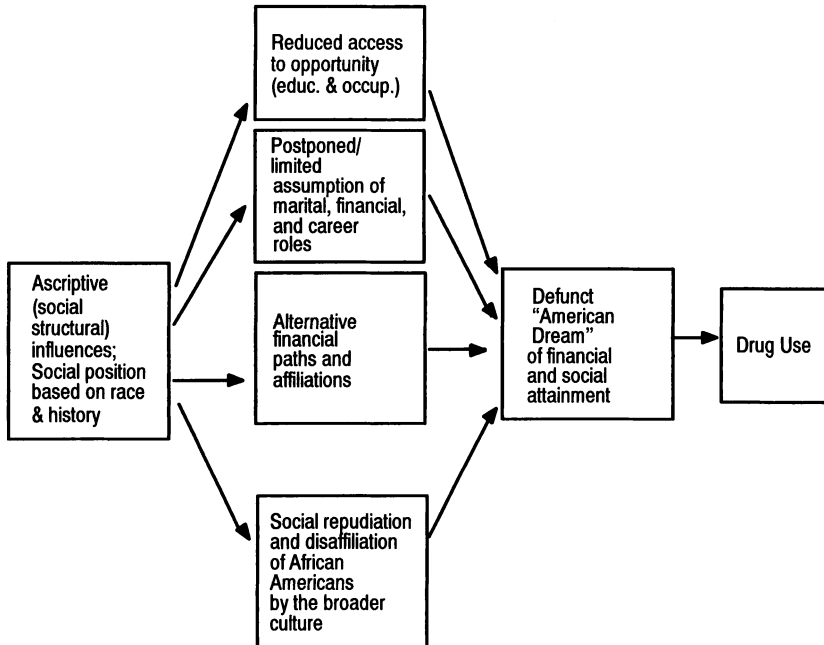
STRUCTURAL STRAIN: AN ECOLOGICAL PARADIGM FOR AFRICAN AMERICAN DRUG USE

A paradigm or model is required that can capture both the diversity of influences on drug use within the African American group and the intergroup differences between them and other minorities and varying subgroups of the white majority. Given the distinct racial history that African Americans share, their minority status, and the socioeconomic disadvantage experienced by a sizeable portion of the group, the paradigm needs to emphasize social structural and situational factors. These are the focus of structural strain theory (Brunswick & Rier, 1995; Brunswick, Messeri et al., 1992). The theory essentially expands on Merton’s theory of social strain (Farnsworth & Leiber, 1989; Merton, 1957) which referred to the tension between socially accepted goals and inability to achieve them through socially accepted channels. The theory predicts that this strain will prompt excluded individuals to seek success through alternative (non-normative or socially disapproved) means. In applying the theory to African American drug use, it has been re-labeled “structural strain” to emphasize the role of social structural determinants in the socially and economically disarticulated segment of the group who are the ones most frequently and most heavily involved with drugs. Figure 1 expresses this relationship.

Moving beyond articulating a theoretical model, a framework is needed to operationalize it and guide research into African American drug use behavior. Toward this end, influences on drug use behavior have been arrayed according to an ecological paradigm first suggested by Bronfenbrenner’s (1979) theory of “nested contexts” of behavioral influences. Figure 2 depicts this paradigm.

The ecological model is an apt graphic paradigm for structural strain theory because: (1) It emphasizes contextual, situational factors within which the individual develops and exercises his/her behavioral repertoire; (2) it explicates four levels of influence that are increasingly complex as one moves from the most proximal, intra-individual factors to the most distal indirect social structural ones. The model also emphasizes the interlinkages

FIGURE 1. Structural Strain Model

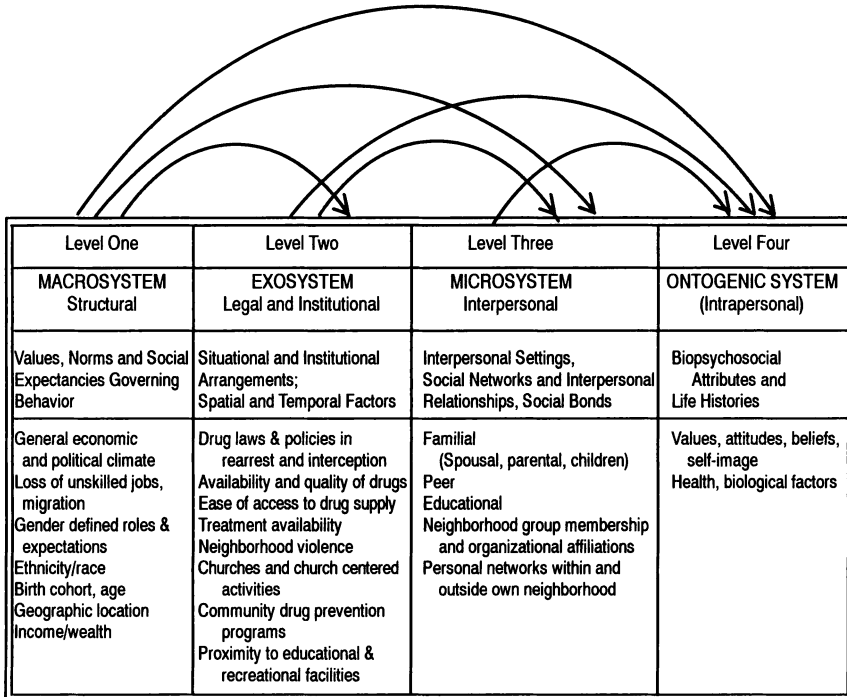


between levels, capturing the interplay between interpersonal, legal, political, economic, and social value influences and the individual's behavior.

In brief, from most distal to proximal to the individual, the model postulates that drug use behaviors develop and are maintained within the context of (1) the individual's socially ascribed position and opportunities conditioned on his/her ethno-racial-gender identity (macrosystem); (2) legal and institutional arrangements that either enable or erect barriers to drug use (exosystem); (3) interpersonal interactions and networks within the community (schools, work, church, courts, and so on), as well as primary networks of family and peers (microsystem); and (4) intra-individual perceptions, aspirations (values, beliefs) and attitudes regarding self and society (ontogenic system). (See Brunswick, 1994 for detailed explication of these four domains.)

Historically, much drug and psychosocial research has been focused on

FIGURE 2. Ecological “Nested Contexts” Paradigm of Influences on Drug Involvement



Source: Adapted from Brunswick 1985 and 1994

the fourth level in Figure 2, that of ontogenic factors. The ecological paradigm was formulated to redress this inappropriate emphasis and exclusivity when studying minority groups whose very label denotes a structural, not a personal, attribute (Brunswick, Messeri, & Titus, 1992; Brunswick & Rier, 1995). Not only does concentration on intra-individual factors ignore the social settings, that is, the contexts that importantly influence individual’s behavior, it imbues those lives with a regularity and coherence that ofttimes are not present. This writer’s Longitudinal African American Cohort Study provides a simple example of this fallacy of constant lives. When cross-classifying men’s reported income by drug involvement, better than a third of men heroin users did not report income. The actual interviews revealed that this was not a result of unwillingness to respond, as might appear at first. Instead, the question, “How much money do you make? You can tell me by the week, or the month, or the

year,” was unanswerable by those whose earnings were irregular and might be described best as, “catch as catch can.”

The ecological paradigm’s implications for research design and procedures are discussed more systematically below, after reviewing some empirical instances that support the model and its underlying theory. These come from three different studies of the same African American cohort cited above.

THEORY GUIDED RESEARCH AND RESEARCH GUIDED THEORY

The impetus for articulating structural strain theory and the ecological paradigm that translates it came from the investigator’s experience with the Longitudinal African American Cohort Study. The Longitudinal African American Cohort Study is a life course study of drug use and health trajectories that began in 1968 as the first area representative sample survey of health status and needs for health care among African American adolescents (Brunswick, 1984; Brunswick & Josephson, 1972). The research now includes five waves of data collection that span 25 years. The study cohort initially was drawn from every 2 in 25 households in the Central Harlem (New York City) Health District where one or more adolescents aged 12 to 17, inclusive, resided. Initially numbering 668 in adolescence, with death and moving away from the New York City area as the major sources of attrition, at the fifth round of data collection 25 years later (1993), the participating study cohort numbered 347. This constituted 75% of those who were interviewable from the initial study wave. Because interviewing in each subsequent round has been limited to those then residing within 60 miles of the city limits, findings are deemed generalizable to African Americans in the metropolitan New York City area who were born in the 1950s (Brunswick, 1991).

The utility of the ecological model in interpreting African American drug use patterns became apparent in a birth cohort analysis of prevalence and timing of onset in adolescence use of four major drugs (marijuana, cocaine, heroin, and psychedelics). Prevalence of particular drugs varied by birth cohort but age at initiation did not. Onset of drug use was a maturational phenomenon (a linkage of level four with contributions from levels one through three, Figure 2), while identification of particular drugs of choice was subject to period factors tied to changing substance availability and group norms of acceptability (ecological model level two). (See Brunswick & Boyle, 1979, for further details of this analysis.)

Another example of situational (level two) influences was observed when analyzing the chronological concurrence of the decline in heroin use in the 1970s with fluctuations in heroin price and purity. The latter are

commonly used indicators of government efforts to control drug supply. Fluctuations in drug use prevalence and price/purity were poorly correlated. Data from personal interviews showed that direct observation of effects on drug users and changing perceptions of educational and job opportunity in the late 1960s and early 1970s differentially affected successive birth cohorts as they entered the adolescent period at risk for heroin initiation (which, in this sample, began at age 13). This reduced the attractiveness of initiating and, to some extent, of continuing heroin use. These perceptions and broader social changes best explained the dramatic drop in rates of heroin use from that in the oldest (28%) to the youngest birth cohorts (3%) in this study cohort (Boyle & Brunswick, 1980; Messeri & Brunswick, 1987).

A direct test of structural strain theory was performed in another study which was formulated to disentangle the opposing functions attributed to substance use—one as causal of stress and the other as buffer or coping mechanism (mediator) for that stress, that is, distress effects. Gender specific longitudinal models controlled for baseline levels of distress. The first series of models posited acute life events as predictors of distress; the second series tested enduring unemployment (hypothesized from structural strain theory) as the predictor chronic stressor. Results showed, first, that acute negative life events were not stressors, that is, did not increase levels of distress in the African American sample. But the chronic stressor of unemployment did have significant impact on distress. When the role of drugs was tested for its causal *vs.* mediating or buffering role in this relationship, different processes were observed for men and women. For men, moderate to heavy (weekly to daily) drug use exacerbated the distressful effects of chronic unemployment; drug use was not stressful in the absence of unemployment (*i.e.*, if employed). For women, the stress of chronic unemployment was ameliorated modestly by light (less than weekly) use of an illicit drug. Heavier use (weekly or greater use of any drug) was stressful for women independent of and in addition to unemployment. This was evidence of the stricter anti-drug use norms that apply for African American women than men, another level one effect encompassed by structural strain theory.

THE ECOLOGICAL MODEL AS A METHODOLOGICAL GUIDE FOR STUDY INSTRUMENTATION AND PROCEDURES

The ecological model is useful as a framework for reminding the researcher of the multiple domains of influence on substance use that vary according to particular minority group status (*vis à vis* the dominant culture) and according to the individual's status within the minority group.

An example of this heuristic or research guiding function is shown in Table 1, where predictor variables that have been measured in the writer's Longitudinal African American Cohort study are arranged according to their level in the ecological model.

Because theory cannot be separated from methods nor methods from theory, the ecological structural strain perspective has implications for each stage of study design and execution, from cohort selection (community cross-section or drug user sample, multi-ethnic or race specific) and sampling procedure (probability or purposive), to data collection rules and protocol, to the requirement of pretesting at successive stages of instrument and protocol development, to designing instruments that minimize response bias and social desirability effects and that incorporate cognitively appropriate question wording, sequencing and response categories.

Elsewhere, the writer has classified sources of measurement bias that confound valid measurement of African American drug use (Brunswick, in press). These arise when distinct ethno-race-gender related structural, situational and interpersonal qualities are ignored. Three broad categories of bias were identified: logical fallacies, sampling, and non-sampling error.

Logical Fallacies

Three fallacies have ramifications in both sampling and non-sampling bias:

Geographic generalization fallacy: Drug use and minority populations both are unevenly distributed throughout the U.S., a skew and heterogeneity that are insufficiently redressed in most sample designs, data analytic methods and reporting, e.g., applying uncorrected means and mean based deviation statistics.

Intra-group homogeneity fallacy: Differences in within group variance or heterogeneity, e.g., different correlations between class and substance use in African American and white populations, too often are neglected in cross-group analyses. Increased multivariate analysis will but partially redress this oversight. Specifically, the distribution of drug involvement is more skewed in the African American population; high levels of use are concentrated among a minority of the population, such as reflected in the 13% of 25 to 29 year old and 14% of 30 to 34 year old black males that census officials acknowledge they undercount (NRC, 1995).

This skewed distribution is a particular threat to the validity of school surveys, where Black youths captured in school—regardless of their real dollar SES—will be more middle class in value orientation and behavior norms than their white equivalents. Research has shown also that African American students are not only more likely to be absent from school but to