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Positive family relationships and religious affiliation as mediators between negative environment and illicit drug symptoms in American Indian adolescents

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ABSTRACT

The present study tests how positive family relationships and religious affiliation mediate between negative familial and social environments, and adolescent illicit drug abuse/dependence symptoms. The theoretical framework is based on an integration of two theories: the ecological model of human development (Bronfenbrenner, 1979) and the social development model (Hawkins & Weis, 1985). We used a stratified random sample of 401 American Indian adolescents. A path analysis tested the integrative theoretical model. Findings showed that positive family relationships mediated the negative impact of addicted family members, violence victimization, and negative school environment on illicit drug abuse/dependence symptoms. Religious affiliation mediated the negative effect of deviant peers on positive family relationships. Intervention and prevention efforts may benefit from promoting positive family relationships and religious affiliation to reduce the impact of complex familial and social problems on illicit drug symptoms.

1. Introduction

American Indian adolescents appear to have higher rates of any illicit drug use than other ethnic/racial groups. The rate of past-month illicit drug use among American Indian adolescents aged 12–17 was approximately twice (18.7%) as high as that for Whites (10.0%), Blacks (10.2%), Hispanics (10.0%), and Asians (6.7%) in 2006 (U.S. Department of Health and Human Services, 2008). Furthermore, American Indians aged 12 or older had rates twice as high for past year abuse of or dependence on substances (including alcohol and illicit drugs) as other ethnic/racial groups (13.4% vs. 7.5%) (U.S. Department of Health and Human Services, 2008). Alarmingly, the drug-related death rate for American Indian and Alaska Natives—already 65% higher than the general populations—increased 240% between 1981 and 1996 (Senate Report 108-075, 2003).

Yet there is a paucity of research examining American Indian adolescent illicit drug use. To establish effective treatment and prevention plans for adolescents with illicit drug problems requires a greater understanding of the complex associations between negative and positive variables in predicting such problems. An integration of two theories guides us to construct a conceptual framework towards understanding the complex interrelationship. The ecological model (Bronfenbrenner, 1979) emphasizes that the developing person is embedded in a series of environmental systems, including multiple familial and social environments. This model also posits that each environmental system is interrelated in predicting adolescent development. In terms of examining interrelations of multiple environmental variables, the social development model (Hawkins, & Weis, 1985) is employed to accentuate the importance of positive variables that may mediate the impact of negative variables on adolescent drug problems.

Based on the integrated conceptual framework, we hypothesize that 1) negative familial environment directly and positively predicts adolescent illicit drug symptoms. However, positive familial environment mediates that impact; 2) Negative social environment directly and positively predicts illicit drug symptoms. However, positive social environment mediates that impact; and 3) Negative familial and social environment are interrelated in predicting negatively positive environment (the mediating variables) and positively illicit drug symptoms (dependent variables). These hypotheses met the criteria for testing mediation rather than moderation, in that we hypothesize a relationship between the positive and negative variables in predicting illicit drug symptoms (Baron, & Kenny, 1986; Bennett, 2000).

Prior research in the area of adolescent substance use problems indicates relevant independent and mediating variables. Evidence shows that poor familial environment (notably, family members' substance problems) is a key risk factor for American Indian adolescent substance problems (Hurdle, Okamoto, & Miles, 2003; Yu & Stiffman, 2007; Yu, Stiffman, & Freedenthal, 2005), as is exposure to violence (Oetting, Edwards, Kelly, & Beauvais, 1997). The substance problems of relatives (e.g., cousins, aunts and uncles) as well as parents may affect use of adolescent substances (Hurdle et al., 2003) because family is an expanded and complex web of relations by blood, clan, tribe and

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adoption among American Indians (Cross, 1986). Conversely, the extended family may help reduce the impact of negative environment on adolescent drug problems. There is evidence that adolescents who interact positively with family members (particularly, parents) were less likely to become involved with problem behaviors (Choi, Harachi, Gillmore, & Catalano, 2005). Parents and other family members remain important socialization influences on American Indian adolescent behavior through high school (Beauvais, 1992).

Prior research also shows that the social contexts of adolescents' lives (e.g., peers and schools) may be the key determinants of adolescent illicit drug problems. Having negative or deviant peers, including peers using substances, is strongly related to American Indian adolescent substance problems (Hurdle et al., 2003; Yu & Stiffman, 2007; Yu et al., 2005).

Unsafe places in and around the school are associated with adolescent drug use (Reid, Peterson, Hughey, & Garcia-Reid, 2006). In addition, American Indian researchers stress the importance of incorporating sociocultural aspects (particularly, religious affiliation) in research on the etiology of adolescent problem behaviors (O'Nell & Mitchell, 1996). An affiliation with the Native American church has proven a protective factor against substance problems in adolescents (Yu & Stiffman, 2007), and poor religious identification is a risk factor for adolescent drug involvement (Beauvais, 1992).

Hence, the integrated conceptual framework analyzed in our paper includes two negative familial environmental variables (i.e., addicted family members and violence victimization), two negative social environmental variables (i.e., negative school environment and deviant peers), and two mediating variables, positive family relationships and religious affiliation.

2. Methods

2.1. Subjects

Our study interviewed a total of 401 youths (196 urban and 205 reservation) aged 13 to 19, living in a Southwestern state using a stratified random sampling (Stiffman, Striley, Brown, Limb, & Ostmann, 2003). The youths averaged 15.4 years of age and 56% were female. All subjects were randomly selected from the reservation by using tribal enrollment rosters and from the urban area by using school district records. They and their families were first contacted by community leaders. Eligible youths were between 12 and 18 years old, with only one per family recruited by personnel from the respective local American Indian educational or by tribal representatives. After community representatives obtained initial agreements to participate, trained interviewers went to the youths' homes, explained the purpose of study, and obtained parent/guardian consent and youths assent. Only six families or youths refused. With American Indian supervisors from the reservation and urban areas, the trained interviewers (most American Indian) administered the interview in 2001. All interviews were administered face-to-face using a computer-assisted personal interview (CAPI) system. Institutional Review Board at Washington University, the reservation's tribal council, and the urban school district reviewed, shaped, and approved the consent and protection procedures; and National Institutes of Health (NIH) granted a Certificate of Confidentiality. To ensure confidentiality, the study does not report the name of the locations. Further details of sample characteristics, sampling, data collection, and procedures can be found elsewhere (Stiffman, Freedenthal, Brown, Ostmann, & Hibbeler, 2005; Stiffman, Striley, et al., 2003; Yu et al., 2005).

2.2. Instruments

The instruments in our project were mutually agreed upon by a research team composed of tribal leaders, human service workers, council members, parents, representative youth from the participating communities, and the investigators (Stiffman, Freedenthal, et al., 2005).

2.2.1. Illicit drug abuse/dependence symptoms—dependent variable

The National Institute of Mental Health's Diagnostic Interview Schedule (DIS; Robins & Helzer, 1994) assessed illicit drug abuse/dependence symptoms. The DIS allows two separate operationalizations of psychiatric disorders using computer algorithms: 1) a diagnosis of disorder and 2) a count of abuse or dependence symptoms. The symptom scores are useful in path analysis because they meet an assumption that refers to interval- or ratio-level measurement (Hatcher, 1994). The questions were modified to exclude hallucinogens used only for spiritual or healing ceremonies (Stiffman, Freedenthal, et al., 2005).

2.2.2. Positive family relationships—mediating variable

Positive family relationships were assessed with an adaptation of the Family Satisfaction Scale (Hudson, 1982). Youths were asked to rate their feelings about their family in the last six months: 1) their family gets on their nerves; 2) they really enjoy their family; 3) they can really depend on their family; 4) their family argues too much; and 5) they feel like a stranger in their family. All negative items were reversed. Responses on a five-point scale ("rarely," "little," "half," "good part," "all/most") were summed so that higher scores represent better family relationships. Cronbach's alpha coefficient was 0.69.

2.2.3. Religious affiliation—mediating variable

Religious affiliation was assessed by asking adolescents whether or not they belonged to or were involved with an organized religious group or a church.

2.2.4. Addicted family members—independent variable

Youths were asked if their parents, brothers, and/or sisters have ever had 1) a drinking problem and/or 2) a drug problem (Stiffman, 1989). Responses to the questions were summed. Cronbach's alpha coefficient for the scale was .78.

2.2.5. Violence victimization—independent variable

Violence victimization was assessed by asking the youths if they were 1) ever hit or beaten until they had bruises on their body or injured in some way; 2) ever raped (violently forced into sexual intercourse); or 3) ever pressured into having sex or made to have sex with some people at home (other than when they were raped)? The youths were then asked how the perpetrators were related to them. We categorize violence victimization as a negative familial environment variable. A substantial number of youths who responded 'yes' on any of victimization reported that the perpetrators were their extended family members. For example, 85% of those youths who were beaten and 55% of those who were raped reported that the perpetrators were parent/guardian, partner/spouse, stepparent or relative.

2.2.6. Negative school environment—independent variable

Negative school environment was measured by asking the degree to which their schools had 1) drug dealing, 2) shooting/stabbing/knifings, 3) teachers injured by students, 4) discrimination because of the way they look/act/dress/their color, 5) fighting between students, 6) carrying weapons, 7) using drugs on campus, and 8) teens joining into gangs in the past six months (Hadley-Ives, Stiffman, Elze, Johnson & Dore, 2000). Responses on a three-point scale ("none," "some," "a lot") were summed. Cronbach's alpha coefficient was 0.76.

2.2.7. Deviant peers—independent variable

To measure deviant peers, youths rated how many of their peers and friends about their age: 1) were both unemployed and out of school; used 2) alcohol, 3) marijuana, 4) inhalants, 5) tobacco, and/or 6) other illegal drugs; 7) sold drugs or marijuana; 8) had trouble with police or juvenile officers; 9) had babies or fathered babies;