Pathways From Adolescent Parent-Child Conflict to Substance Use Disorders In the Fourth Decade of Life

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Abstract

This longitudinal study provides important information regarding the developmental, social, and psychological factors in adolescence, the twenties, and the early thirties as related to a later diagnosis of substance use disorders (SUDs) in the thirties. A community-based sample was interviewed between 1975 and 2007. Results based in structural equation modeling indicated that a weak parent-child bond was related to the development of drug-conducive personality traits, which was associated with the selection of drug-using peers and partners, which in turn, predicted SUDs. The findings should aid in formulating prevention and treatment programs targeting specific risk factors in adolescence and young adults.

Keywords

SUDs; social; personality

INTRODUCTION

There have been few long-term longitudinal studies of psychosocial predictors of substance use disorders (SUDs).[1–3] To date, the majority of longitudinal studies have focused on the antecedents of substance use. It is important to note that the adverse consequences of SUDs are far more severe than the consequences of substance use. Indeed, the harmful consequences may be less or may not be present in the experimental use of substances which do not meet DSM criteria for substance use dependence. Given the lack of evidence about the precursors of SUDs, it is important to investigate the developmental origins of SUDs, in order to further inform prevention and treatment programs.

Several investigators have identified the determinants of drug use during adolescence and young adulthood and have generated a number of explanatory theories.[4] In contrast, with regard

to SUDS in adulthood, there are relatively few theoretically-driven models on the adolescent factors that may influence SUDs in adulthood. Investigations focused on the relationships between adolescent psychosocial factors should increase our comprehension of the role intrapersonal and interpersonal factors play in the later development of SUDS in adults. Such knowledge will be useful in our ability to treat SUDs in adults or to prevent its development prior to that time. The present study therefore was designed to assess a multidimensional measurement model that incorporates the adolescent predictors of SUDs occurring in adulthood.

Previous studies of clinical samples have indicated that difficulty in both intrapersonal and interpersonal functioning predict SUDS among adolescents and adults.[5–8] Other investigators have assessed representative samples of adolescents or adults in the general population.[9–11] These studies have shown high levels of co-occurring substance use disorders with other psychiatric disorders. In contrast to investigations of SUDs, several studies have examined the relationship of psychiatric disorders and drug use in general samples of the adolescent population.[1,12–15] The findings indicated that emotional and conduct disorders and antisocial personality disorder co-occur with adolescent drug use.[16,17]

In contrast to the research findings on psychiatric disorders related to SUDs, the association of psychosocial factors such as family factors, adolescent personality and peer attributes, and SUDs is less clear. Therefore, we build on research that focuses on the risk factors for drug use, which is a major predictor of SUDs.[18,19] Investigators have called attention to the personality attributes related to both drug use and SUDs such as sensation seeking, anxiety, tolerance of delinquent behavior, and delinquent behavior.[20–24] Associating with delinquent and drug-using peers predicts use and abuse of drugs.[21,25,26] Thus, we hypothesize that peer drug use and personality factors such as sensation seeking are risk factors for a diagnosis of SUDs in young adults. This study investigates these childhood and adolescent peer and personality attributes as predictors of later SUDs.

There is some evidence to suggest that a low parent-child mutual attachment relationship as well as hostile and intrusive parenting behaviors are related to SUDs.[24, 27–30] There is a dearth of literature focused on the association of the quality of the marital relationship and its association with SUDs. Marital conflict, especially overt parental conflict which the youngster observes, may lead to adjustment difficulties and drug use, and ultimately predispose to SUDs.[27] Several studies demonstrate that parental SUDs predict the occurrence of SUDs in their offspring.[31, 32]

As regards vulnerable personality attributes, we hypothesize that they will predict marital conflict, which in turn will be related to the use of drugs by one's partner, and ultimately SUDs. There is extensive literature demonstrating that one's personality traits have an effect on the quality of relationships with others.[33–35] Based on the literature, we postulate that positive personality attributes (e.g., agreeableness, conscientiousness, and emotional stability) will be associated with higher levels of marital (partner) satisfaction and harmony. Marital conflict relates to partner illicit drug use and ultimately SUDs.[36]

Considerable evidence exists to support the pathways delineated in FIT. Several investigators[37–39] report that parent-child conflict is associated with vulnerable personality attributes such as impulsivity, rebelliousness, and internalizing behaviors. Studies have also found a relationship between vulnerable personality attributes and associating with delinquent and drug-using peers.[40, 41] Moreover, personality attributes mediate between parent-child conflict and associating with delinquent and drug-using peers.[42] Furthermore, there is some evidence that peer delinquency and peer drug use predict drug use disorders.[43] Individuals who select peers who use drugs also tend to choose drug-using partners.[44] Although we are not

aware of any investigations that have found a direct relationship between partner drug use and the subsequent development of a drug use disorder, drug use on the part of one's partner has been found to predict the individual's drug use.[45,46] Since drug use is a necessary but not sufficient condition for SUDs, we assume that the use of drugs by one's partner will be related to the individual's SUDS.

Based on previous theory and research,[47] we hypothesize that a mediational model would best describe the interrelation of earlier intrapersonal and interpersonal factors and SUDs in adulthood. More specifically, we hypothesize that a weak parent-child bond predicts the development of drug-conducive personality traits, which, in turn, are related to the selection of deviant peers, marital/partner conflict, and drug use, which in turn, is associated with SUDs. Furthermore, we hypothesize a direct relationship between earlier drug use by peers and partners and adult SUDs.

The present study extends previous research in a number of significant ways. First, a community-based study allows us to determine whether psychosocial factors predict SUDs in the general population. Second, it examines the adolescent psychosocial factors that predict SUDs in adults in their late twenties and thirties (with control on the demographic factors of parental drug use and participant substance use disorders). Third, the study employs a prospective longitudinal design to examine the temporal sequence of family, personality, and peer factors in predicting drug use and SUDs in adults in their late 20s and 30s. Finally, no previous longitudinal study has controlled for earlier diagnoses of SUDs (in young adulthood) when assessing the adolescent young adult psychosocial predictors of SUDs in adults in their late twenties and early thirties.

METHOD

Participants and Procedure

The data for the participants in this study came from a residentially based random sample residing in one of two upstate New York counties who had been assessed for drug use first in 1983. The sample was based on an earlier study using maternal interviews in 1975. The original maternal/youth study was designed to assess problem behavior among youngsters. The 1983 sample (N=756) is the base from which the current sample was drawn. The sampled families were generally representative in 1975 of the population of families in Albany and Saratoga, two upstate New York counties, with respect to gender, family intactness, family income, and education. There was a close match of the participants on family income, maternal education, and family structure with the 1980 survey conducted by the U.S. Bureau of Census. For example, 75% of the children lived with married parents, and 19% lived with a mother who was not currently married; the census figures were 79% and 17%, respectively. Interviews of both mothers and youths were conducted in 1983 (T2, N=756), 1985–1986 (T3, N=739), and 1992 (T4, N=750). Three more interviews of the second generation offspring were conducted in 1997 (T5, N=749), 2002 (T6, N=673), and 2007 (T7, N=607). Some of the participants who were not interviewed in previous years were interviewed in later waves of data collection. Retention rate has been over 95% until the most of the recent follow-ups, when it was 80%. Five percent refused to participate in 2007. Due to budget constraints, we were unable to interview the remaining 15%. The mean ages (SDs) of participants at the follow-up interviews were 14.05 (2.80) at T2, 16.26 (2.81) at T3, 22.28 (2.82) at T4, 26.99 (2.80) at T5, 31.90 (2.83) at T6, and 37.10 (2.84) at T7, respectively. The sample (N=607) on which the analysis is based was 95% white and 51% female. There were no significant differences on the demographic variables (e.g., family income at T1, t=1.57; p>0.05) between those who remained in the study and those who dropped out. Extensively trained and supervised lay interviewers administered the interviews in private. Written informed consent was obtained from the participants and their mothers in 1983, 1986, and 1992, and from the participants only in 1997, 2002 and 2007.

Approval for the use of human subjects was authorized by the Institutional Review Board of New York University School of Medicine. Additional information regarding the study methodology is available from prior publications.[48,49]

Measures

Parent-Child Conflict at T2–T3—A latent variable of parent-child conflict at T2–T3 was hypothesized and consisted of four multi-item scales, including conflictual relations with father (6 items; alpha = 0.91; e.g., "How often does your child do the opposite of what his/her father tells him/her"[50] and conflictual relations with mother (6 items; alpha = 0.88; e.g., "How often does your child do the opposite of what you tell him/her?"[50]) at each point in time.

Peer Delinquency and Illicit Drug Use at T4—A latent variable of peer delinquency and illicit drug use at T4, consisting of one multi-item and two single-item scales, was hypothesized. Peer delinquency was included (5 items; alpha = 0.78; e.g., "How many of your friends were in a serious fight at school or work?"[51]). The two single-item scales assessed peer marijuana use and peer illicit drug use other than marijuana (e.g., "How many of your friends use marijuana or hashish?"[27])

Vulnerable Personality Attributes at T4—The measures of vulnerable personality attributes at T4, a latent construct, are based on the participants' reports of their own behavior. The following scales and examples of items were included: (1) rebellion (8 items; alpha = 0.75; e.g., "When rules and regulations get in the way, I sometimes ignore them."[52]); (2) ego-integration (7 items; alpha =0.68; e.g., "I sometimes feel that I am about to go to pieces or fall apart."[27]); (3) delinquency (5 items; alpha = 0.76; e.g., "How often have you gotten into a serious fight at school or work?"[27]), (4) impulsivity (6 items; alpha =0.50; e.g., "I often act on the spur of the moment without stopping to think."[53]); and (5) internalizing behaviors (15 items; alpha = 0.88; e.g., "Over the last few years, on average, how much were you bothered by difficulty in falling asleep or staying asleep?"[54]).

Marital Conflict at T5–T6—A latent variable of marital conflict at T5–T6, consisting of six multi-item scales, was hypothesized. At each point in time, the following scales and examples of items were included: marital conflict (7 items; alpha = 0.91; e.g., "You rarely have fun together?"[55]), disagreement with partner (4 items; alpha = 0.75; e.g., "How much do you and your partner disagree about handling finances?"[55]), and lack of emotional support (2 items; alpha = 0.69; e.g., "He/she rarely understands exactly how you are feeling."[55]).

Partner Substance Use at T5–T6—A latent variable of partner substance use at T5–T6, consisting of four single-item scales, was hypothesized. At each point in time, two single-item scales assessed the frequencies of partner marijuana use and partner illegal drug use other than marijuana (e.g., "What was the most often he/she ever used marijuana?").

Drug Dependence and Abuse at T6–T7—Using the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria, [56] we ascertained drug dependence by the presence of 3 or more of the following for each substance[a] during the same 12-month period before the interviews both at T6 and T7: (1) use more of the substance than usual to get the same effect or that the same amount had less effect than before; (2) the presence of withdrawal symptoms or use of the substance to avoid withdrawal symptoms; (3) the use of much larger amounts of the substance than intended, or use for a longer period of time than intended; (4) the presence of such a strong desire or urge to use the substance that the person could not resist using it; (5)

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[a]stimulants, cocaine/crack, narcotics, hallucinogens, MDA or MDMA, inhalants, marijuana, tranquilizers, and illegal use of prescription drugs.

had a period of a month or more when the person spent a great deal of time using the substance or getting over its effects; (6) the person gave up activities because of use of the substance; (7) emotional or psychological problems resulting from using the substance – such as feeling uninterested in things, feeling depressed, suspicious of people, paranoid, or having strange ideas. If a participant was not qualified as drug dependent, drug abuse was ascertained by the presence of at least one of four criteria for substance abuse as delineated in DSM-IV.

The percentage of participants in their early 30s in 2002 (T6) or mid 30s in 2007 (T7) who qualified for the diagnoses of drug dependence or abuse either at T6 or T7 was 10.71%.

Analytical Plans

Latent variable structural equation models were employed to examine the empirical validity of the proposed processes illustrated in Figure 1.

In order to account for the influences of the youths' gender, age, parental educational level, parental drug use, and earlier SUDs on the measurement and structural models, we used partial covariance matrices as the input matrices. These matrices were created by statistically partialing out the effects of the factors noted above on each of the original manifest variables. According to Newcomb & Bentler,[57] this strategy allows us to statistically control for the effects of the variables cited above without hypothesizing exactly where they influence the model. There were no missing data for the measurement of SUDs at T6 and T7. We used the full information maximum likelihood (FIML) approach for the missing data in the independent variables.[58] The correlations among the variables derived from the covariance matrices are available from the authors. Maximum likelihood estimates of the model coefficients were obtained by using LISREL VIII.[59] To account for the non-normal distribution of the model variables, as recommended by Hu, Bentler & Kano,[60] we used the Satorra-Bentler [61] scaled statistic (S-B χ^2) as the test statistic for model evaluation. We chose several fit indices to assess the fit of the models: (a) the LISREL goodness of fit index (GFI); (b) the root mean square error of approximation (RMSEA); and (c) Bentler's comparative fit index (CFI). For the GFI and CFI, values between 0.90 and 1.0 indicate that the model provides a good fit for the data. For the RMSEA, values lower than .06 indicate a good fit.[62]

RESULTS

Using LISREL VIII, we tested the measurement model as well as the structural model, controlling for youths' gender, age, parental educational level, parental drug use, and earlier SUDs. All factor loadings were significant (p<0.001). The findings show that the indicator variables were satisfactory measures of the latent constructs. The Satorra-Bentler chi-square (S-B χ^2) was 460.28 with 216 degree of freedom. The following fit indices were obtained: GFI=0.93; RMSEA=0.043; and Bentler's CFI=0.96. These results reflect a satisfactory model fit. For the structural model, standardized parameter estimates, as well as the associated t-statistics for the sample, are presented in Figure 2.

As noted in Figure 2, the data are consistent with the hypothesized model. More specifically, our findings suggest that parent-child conflict in early and mid adolescence was positively related to the participants' vulnerable personality attributes in the early twenties ($t = 4.76$). Vulnerable personality attributes in the early twenties was related to associating with illicit drug-using and delinquent peers at the same period ($t = 13.36$) and marital conflict in the late twenties and early thirties ($t = 6.38$). Associating with illicit drug-using and delinquent peers in the early twenties was related to partner illicit drug use in the late twenties and early thirties ($t = 4.51$). Marital conflict in the late twenties and early thirties was also related to partner illicit drug use in the late twenties and early thirties ($t = 2.19$). Both associating with illicit drug-using and delinquent peers in the early twenties and partner illicit drug use in the late twenties

early thirties had direct effects on the participants' SUDs later in the thirties ($t = 3.18$ and $t = 2.17$, respectively).

DISCUSSION

As is clearly shown in the final model, domains of psychosocial variables at different earlier developmental stages in the individual are related to a diagnosis of SUDs in the thirties. Family, personality, peer, and relations with partners, as well as the partners' drug use are all significantly related to SUDs. Further, our multivariate SEM analyses lend partial support to the mediational model presented in the introduction, involving both proximal and distal domains. The more proximal domains include variables assessing partner drug use and relations with the partner. The most distal domain is the family domain. The personality and peer domains occupy an intermediate position between the most distal (family) and the most proximal (partner drug use and partner relationship) domains.

With respect to the personality domain, adolescent drug-conducive personality traits and behavior (e.g., internalizing behaviors) predicted a diagnosis of SUDs in the thirties. Past research has shown that traits from the personality domain are associated with both the initiation and the continuation of drug use.[4, 20, 27] The present findings add to the literature by showing their linkage to SUDs in the thirties.

The relationship of the personality domain to SUDs in the thirties is mediated by peer and partner domains. Through the process of assortative peer and partner selection, individuals with one or more vulnerable personality attributes select peers and partners who reinforce their non-traditional attitudes and behaviors.[4, 63] Further, it is likely that the family and social setting is conducive to abusing drugs, and also serves as a conduit for obtaining drugs of abuse.

Peer and partner illegal drug use have direct effects on SUDs as well as serving as mediators between vulnerable personality attributes and SUDs. One possibility is that the individuals model the drug use of both their peers and partners. In addition, their peers and partners may serve to reinforce their own vulnerabilities to SUDs.

The results highlight the significance of the role of conflicts between parents and adolescents in predicting future SUDs in adulthood. Parent-child conflict across early, middle, and late adolescence appear to increase the likelihood of SUDs, although the longitudinal relations were of small magnitude (See Figure 1). However, the findings suggest that through an impact on personality attributes in subsequent developmental stages, parent-child conflict may play a role in peer and partner relationships and SUDs in adulthood. The results elucidate a developmental sequence that has been suggested in the literature.[64]

In accordance with Family Interactional Theory, the effect of the family domain on adult SUDs is mediated through each of the other domains.[27] A decreased mutual parent-child attachment relationship seems to have a catalytic effect, acting as the first step in a causal chain of events over time leading to SUDs. Thus, a positive parent-child mutual attachment relationship underlies the development of drug-resistant personality traits, and predicts several other aspects of the individual as well, such as associating with peers and partners who do not use drugs.

Limitations of the Study

The results of this study should be interpreted with several caveats. Our sample was composed of predominantly white individuals, precluding generalization to other ethnic groups. Second, although we were able to provide temporal ordering of the data collected at several points in time, our findings do not imply causality.

Clinical Implications

The findings suggest that interventions targeting adolescence might focus on the conflictual aspects of parent-child relations. In the early twenties, attention might be directed toward factors affecting vulnerability of the personality, such as depression and anxiety, and their association with individuals having delinquent and drug-using peers. The findings from the final model suggest several potential areas in which prevention or treatment interventions may be effective. Most obvious are those interventions targeted at stopping adolescent drug use before it can progress to abuse. The idea that many adolescents will "outgrow" their patterns of substance use appears to be false. If left unchecked, low levels of drug use can progress to abuse by the late twenties. Our findings indicate that the domain of self-drug use (with the exception of experimental use) was highly related to the development of SUDs over time. Also, if an adolescent is diagnosed with SUDs, steps need to be taken to intervene immediately, as that diagnosis is likely to continue into adulthood, and, potentially, throughout that individual's life. Substance abuse is a chronic relapsing disorder, with concurrent biopsychosocial correlates and sequelae.

Prevention and treatment intervention programs that target drug-conducive personality traits or associating with deviant peers should also be effective in preventing the progression from drug use to abuse. Also, programs that are designed either to reduce conflict and increase attachment in the family, or to minimize drug use among parents should be effective in enhancing the prevention of SUDs in both adolescence and adulthood. In fact, the effects of a positive family mutual attachment relationship seem to underlie the drug-preventive effects of all of the other domains, making it an especially important foundation for healthy adolescent and adult development.

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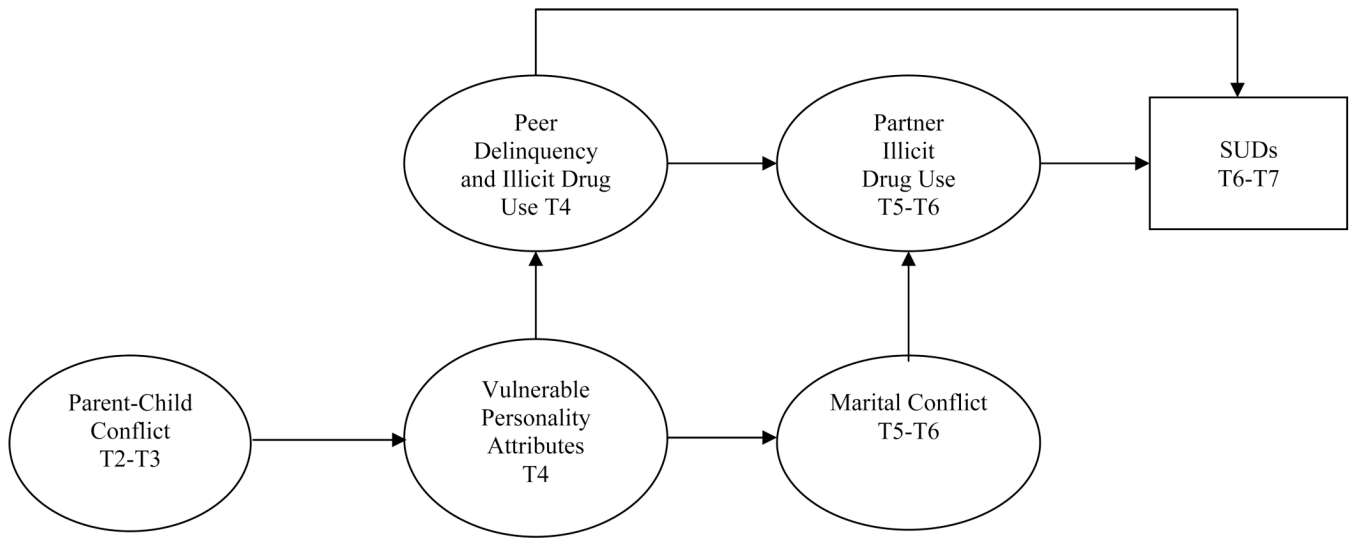
Figure 1.
Hypothesized Model: Pathways to SUDs (N=607).
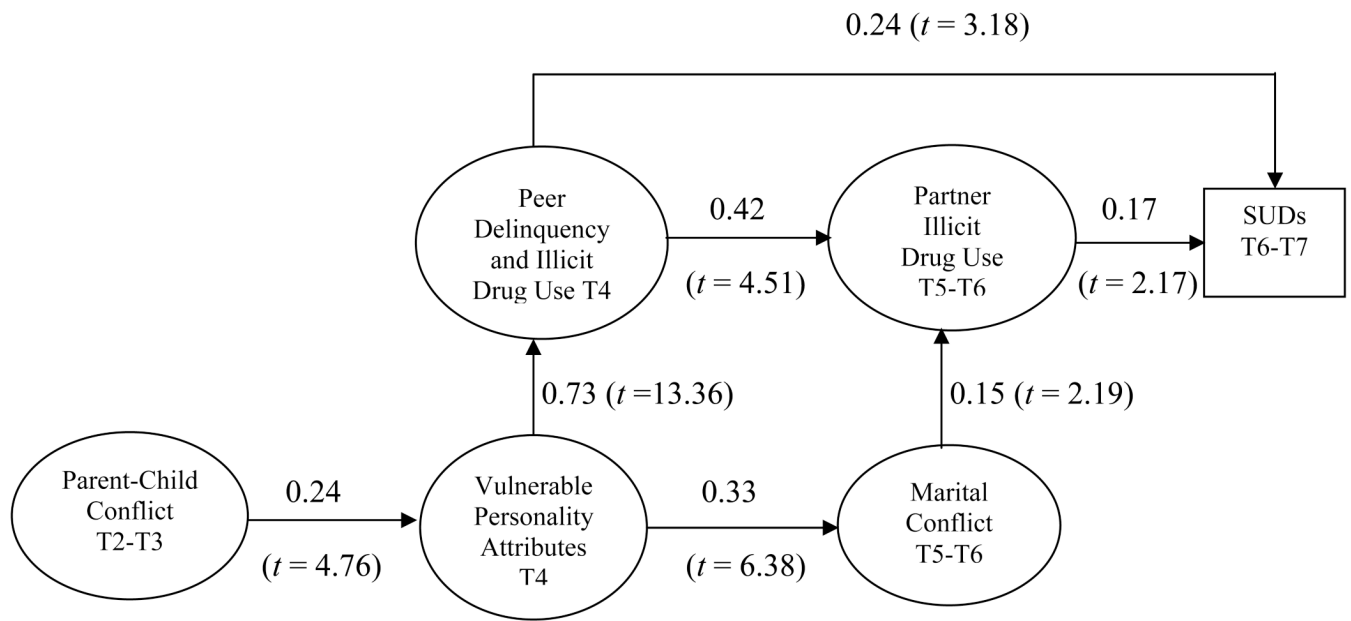
Figure 2.
Obtained Model: Standardized Pathways (*t*-statistic) to SUDs (N = 607).
Note: 1. GFI=0.93; RMSEA=0.043; CFI=0.96;
2. Age, gender, parental educational level, parental drug use, and earlier SUDs were statistically controlled.