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The Role of Family Affect in Juvenile Drug Court Offenders' Substance Use and HIV Risk

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Abstract

Family-based interventions targeting parenting factors, such as parental monitoring and parent–child communication, have been successful in reducing adolescent offenders' substance use and delinquency. This pilot, exploratory study focuses on family and parenting factors that may be relevant in reducing juvenile offenders' substance use and sexual risk taking behavior, and in particular examines the role of family emotional involvement and responsiveness in young offenders' risk-taking behaviors. Participants included 53 juvenile drug court offenders and their parents. Results indicate that poor parent–child communication is associated with marijuana use and unprotected sexual activity for young offenders; however, family affective responsiveness is also a significant unique predictor of unprotected sexual activity for these youth. Findings suggest that interventions focused on improving parent–child communication may reduce both marijuana use and risky sexual behavior among court-involved youth, but a specific intervention focused on improving parents and young offenders' ability to connect with and respond to one another emotionally may provide a novel means of reducing unprotected sexual risk behaviors.

Keywords

Family; Affect; Juvenile offenders; Sexual activity; Substance use

Introduction

Juvenile offenders are at risk for acquiring HIV because of their substantially higher rates of risk behaviors, especially using substances during sex (Castrucci and Martin 2002; Kingree and Betz 2003; Teplin et al. 2003). Compared to their peers they begin sexual activity earlier (Morris et al. 1995), have more partners (Canterbury et al. 1995), use condoms less often (Morris et al. 1995), and have higher rates of sexually transmitted disease (STDs) and pregnancy (Morris et al. 1995; Nesmith et al. 1997; Widom and Hammett 1996). Among a sample of African American juvenile detainees, marijuana use during sex was directly associated with not using condoms (Kingree and Betz 2003). Furthermore, there is substantial evidence for the co-occurrence of adolescent substance use, delinquency and sexual risk-taking behaviors (Kotchick et al. 2001). Considerably greater rates of substance abuse disorders among young offenders places them at significantly greater risk for HIV infection than their non-offending peers (Domalanta et al. 2003; Otto-Salaj et al. 2002; Pliszka et al. 2000; Ryan and Redding 2004).

Research with community-based samples of adolescents suggests that several parenting and family factors are linked to adolescent sexual risk and/or substance use behaviors. For example, higher quality parent–child communication (defined as greater frequency and comfort with discussions; DiIorio et al. 2003), higher parental monitoring/behavioral control (Huebner and Howell 2003; Metzler et al. 1994), and parental modeling of prosocial behaviors (Perrino et al. 2000) have consistently been linked with less adolescent substance use and sexual risk behavior. Studies examining family affective factors such as warmth, support, and affective involvement with similar community-based adolescent populations have, however, been inconsistently associated with adolescent HIV risk behavior (McBride et al. 2003; Miller et al. 1999; Voisin 2002). While the only published family-based HIV prevention intervention for juvenile justice youth has found preliminary encouraging results in reducing adolescent unsafe sexual behaviors (Multidimensional Family Therapy-HIV/STD; Marvel et al. 2009), there are only a few studies that have actually examined associations between family context, adolescent substance use and sexual risk behavior among incarcerated or juvenile justice youth. For example, Rowe et al. (2008) found that for juvenile detainees, family conflict is predictive of substance use above and beyond delinquency, but not so for HIV/STD risk (Rowe et al. 2008). Similarly, St. Lawrence et al. (2008) found that when considering individual, partner, peer and family influences on sexual risk behavior among incarcerated adolescent females, only individual-level and not family variables (e.g., age at sexual debut, gang membership, perceived vulnerability for HIV) were significantly associated with HIV/STD risk behavior (St. Lawrence et al. 2008). Finally, Voisin et al. (2008), in testing their hypothesis about the relationship between community violence, substance use and sexual risk among male and female juvenile detainees, controlled for common parenting practices related to sexual risk (e.g., parental monitoring). They found that even after controlling for these family factors (in which parental monitoring was a significant protective factor against engaging in HIV/STD risk behavior), community violence was still linked to an increased risk of HIV/STD risk behavior for these youth. Ultimately, existing literature to guide intervention development with this population remains scarce. Understanding more about family context, substance use and HIV risk among juvenile offenders may help to inform the development of family-based HIV prevention interventions given that individual and group-based adolescent-only approaches have been limited in their risk reduction efficacy (Tolou-Shams et al. 2010).

Although other social and contextual factors (e.g., peer and romantic relationships, neighborhood environment, academic functioning) are important to study in relation to juvenile offenders' substance use and HIV risk-taking behaviors, understanding the link between family affective factors and adolescent risk behavior may be of particular unique importance in guiding intervention development for juvenile offenders for several reasons. First, research has suggested that if parents are unable to assist their children in regulating their emotions, then children are dysregulated in other non-family contexts ultimately leading to social incompetency and risk behaviors, such as aggression (Frick and Sheffield 2005). However, this link has been demonstrated primarily through studies of younger children (Chang et al. 2003). Emotion dysregulation shown through harsh/punitive parenting can affect a child's ability to manage their own affect (Chang et al. 2003; Eisenberg et al. 1999), and can result in an increase in the rate of externalizing behaviors. For example, youth with less developed affect regulation skills may seek out substances to help manage strong feelings or seek out romantic partners to fill an emotional void; a strong drive to connect with romantic partners may also create unhealthy partnerships where condom negotiation is lacking or absent (Bell and McBride, 2010; Hessler and Katz 2010). Second, children who have learned poor emotion regulation from parents tend to have troubled relationships with peers (Parke et al. 1992). Coercive parenting patterns have repeatedly been demonstrated within families of conduct disordered youth and suggest that children get reinforced for poor communication and inappropriate affective expression (Patterson 1982;

Patterson et al. 1992). During behavioral outbursts, parental attention is given for maladaptive interactions and there is no positive reinforcement for appropriate communication, affective expression and social behaviors. Third, among substance-abusing juvenile offenders (who are the focus of the current study), there are documented high rates of psychiatric disorders and substance abuse/dependence among the parents of substance-abusing juvenile offenders (Barylnik 2003) that are likely associated with greater parental emotional dysregulation than among parents who are not psychiatrically impaired or substance abusing.

We therefore sought to expand the family-based literature in HIV prevention by exploring the associations among more commonly studied parenting practices (e.g., parental monitoring and parent-adolescent communication), family affective factors (i.e., affective responsiveness and involvement), and adolescent risk behavior (substance use and sexual risk) among a sample of substance abusing juvenile offenders. Family affective factors may overlap with parenting practices of monitoring and communication. The emotional environment at home (e.g., increased conflict or emotional avoidance due to poor parent and child emotion regulation skills) may be part of the foundation upon which these parenting skills are built and, if impaired, may hinder the parent's ability to effectively monitor or communicate with their teen about safer sex and drug use. Conversely, family affective factors may be distinct risk factors for adolescent condom use and marijuana use. For example, how emotional responsiveness and involvement are modeled in the family may serve to enhance or protect against adolescent risk regardless of how effectively parents implement specific parenting practices. We hypothesized that more substance use (alcohol and marijuana) and less condom use would be associated with worse parenting and family affective factors, such as less parental monitoring, greater parental permissiveness, poorer parent-child communication and poor family affective responsiveness and involvement. We expected that family affective factors would be associated with substance use and condom use after controlling for previously associated parenting factors, such as parent-adolescent communication and parental monitoring.

Method

Participants

Adolescents (13–18 years old) were recruited from a Juvenile Drug Court (JDC); a therapeutic jurisprudence diversion program for nonviolent juveniles charged with substance-related crimes. Families were approached for research participation in a 5-session adolescent-only HIV prevention program by study staff not affiliated with the court (intervention description and outcomes are published elsewhere; authors removed, under review). Eighty-two parent-adolescent dyads completed the baseline assessment. Due to the small number of female participants enrolled in the study ($n = 10$) and incomplete substance use or sexual risk data at baseline ($n = 21$), these analyses included only male adolescents who provided complete data on recent marijuana use ($N = 53$) and were recently sexual active (past 90 days) at baseline ($N = 44$).

Procedure—The Hospital Institutional Review Board approved all study protocols. Assent and parental consent were obtained for those 13–17 years of age and informed consent from those who were 18. Baseline research assessments took 1 h and were administered by Audio Computer-Assisted Self-Interview (ACASI) on laptop computers at a site separate from the JDC to ensure privacy.

Self-Report Measures (Adolescent Report)

Demographics—Included age, gender, race and ethnicity, education (school drop-out) and parent report of socioeconomic status.

Family and Parenting Factors—The *Family Assessment Device* (FAD; Epstein et al. 1983; Miller et al. 1985) is a self-report scale of family functioning that includes two subscales (13 total items) of family emotional functioning: Affective Responsiveness (AR; $\alpha = .59$), Affective Involvement (AI; $\alpha = .84$). One item, “we are reluctant to show our affection for each other” was dropped from the original 6-item AR subscale to improve internal consistency (from .47 to .59). Affective involvement is described as, “assessing the degree to which family members are involved and interested in the activities of other family members,” (Miller et al. 1985, p. 349) and Affective Responsiveness refers to “the ability of individual family members to respond to a range of situations with appropriate quality and quantity of emotion,” (Miller et al. 1985, p. 348). Examples of FAD items from the AR scale include: “we cry openly;” “we express tenderness;” “some of us just don’t respond emotionally.” Examples of FAD items from the AI scale include: “we get involved with each other only when something interests us;” “if someone is in trouble, the others become too involved;” “even though we mean well, we intrude too much into each others lives.” Higher FAD scores suggest worse family functioning. The FAD has been psychometrically validated with excellent internal consistencies and 1-week test–retest reliabilities among psychiatric patients and their families (Miller et al. 1985). However, this is the first use of the FAD with juvenile offenders and their families.

The *Parenting Style Questionnaire* (PSQ; Oregon Social Learning Center 1990) measures adolescents’ perception of parental permissiveness ($\alpha = .79$) and monitoring ($\alpha = .84$) with higher scores indicating worse monitoring. Sample items include, “how often does your parent talk to you about plans for the coming day” and “how often would your parent know if you came home an hour late.” Reliability and validity of the measure have been established, and it has been used extensively with deviant pre-teens and teens (Oregon Social Learning Center 1990).

The *Parent-Adolescent Communication Scale* (PAC; Barnes and Olson 1982) assesses the positive and negative aspects of general parent-adolescent communication (e.g., my parent is always a good listener, I am careful about what I say to my parent). The measure’s two subscales, Problems in Family Communication (negative communication; $\alpha = .71$) and Open Family Communication (positive communication; $\alpha = .91$) demonstrated moderate to strong internal consistency. Higher PAC scores indicate greater positive or greater negative communication.

Sexual Risk and Substance Use Behaviors—Recent *substance use (past 30 days)* included adolescent self-report of frequency (number of days) of alcohol and marijuana use.

Recent *sexual risk behavior (past 90 days)* was assessed using a pattern of items found reliable and sensitive to change in other adolescent populations (Donenberg et al. 2001). The number of times participants had vaginal or anal sex with each partner in the last 90 days, as well as the number of times they used condoms, were used to calculate the number of unprotected sexual acts. The proportion of sexual acts protected by a condom (the primary study outcome) was calculated by dividing the number of protected acts by the total number of sexual intercourse acts. The number of sexual partners and their frequency of substance use during sex (never versus any use) were also collected for descriptive purposes.

Data Analysis

Bivariate correlations were calculated to determine the relationship between demographics, family/parenting factors and sexual risk and substance use behaviors. Alcohol use was associated with older age ($r = .48, p = .002$); however, it was unrelated to any family/parenting or sexual risk outcomes and therefore was dropped from substance use outcome analyses. In addition, marijuana and condom use were unrelated in this sample ($n = 32; r = -.11, p > .05$). Given the exploratory nature of these analyses, any family/parenting factors associated with the two primary risk outcomes of marijuana and condom use at $p \leq .10$ were entered into two separate linear regression models to determine the best predictors of these outcomes while controlling for relevant demographics.

Results

Descriptives

This sample (M age = 16 years) was predominantly European-American (71%) and African-American (18%) with the remainder of youth identifying as Biracial (7%), Asian (2%), and Native American (2%). Twenty percent ethnically identified as Latino. Approximately 40% endorsed annual household incomes of less than \$30,000. Nineteen percent of youth reported dropping out of school. During the past 30 days, 36% of the sample reported using marijuana for an average of 5 ($SD = 10$) days and approximately 67% reported some alcohol use, including being buzzed or drunk an average of three ($SD = 5$) days. Condoms were used, on average, 69% of the time over the past 90 days. Males reported an average of three unprotected sex acts ($SD = 6$) and two sexual partners ($SD = 2$) over the past 90 days. Two-thirds of sexually active males endorsed using drugs or alcohol at least once during recent sex. There were no significant associations between any demographic variables and the primary outcomes of condom use and marijuana use. In addition to alcohol use being unassociated with either primary outcome (see Table 1), there were no statistically significant differences in proportion of condom use and marijuana use between those who did and those who did not recently use substances during sex [condom use, $t_{(39)} = .15, p = .88$; marijuana use, $t_{(31)} = 1.22, p = .23$].

Bivariate Correlations

Bivariate associations between adolescent's report of family/parenting factors, marijuana use and condom use are presented in Table 1. More marijuana use was associated with more negative parent-child communication, greater parental permissiveness, less family affective responsiveness, affective involvement and lower general functioning. More open, positive parent-child communication was also associated with less marijuana use. Less condom use was associated with more negative parent-child communication and less family affective responsiveness. Parental monitoring was unrelated to either outcome. For subsequent linear regressions, we included only the measure of affective responsiveness because it was the only FAD subscale related to both marijuana use and proportion of condom use (at $p < .10$) in bivariate analyses.

Linear Regression

Proportion of Condom Use (Past 90 Days)—Family affective responsiveness and negative parent-child communication accounted for 16% of the variance in recent unprotected sexual intercourse, $F(2, 40) = 4.91, p = .01$; adjusted $R^2 = .16$ (see Table 2). Specifically, more negative parent-child communication was associated with less condom use ($\beta = -.32, p = .04$) and less family affective responsiveness was associated with less condom use ($\beta = -.29, p = .05$).

Marijuana Use (Past 30 Days)—Family affective responsiveness, negative parent–child communication and parental permissiveness accounted for 17% of the variance in recent marijuana use, $F(3, 52) = 4.55, p = .007$; adjusted $R^2 = .17$ (see Table 2). Only more negative parent–child communication was significantly associated with more marijuana use ($\beta = .35, p = .02$) when accounting for other family or parenting factors.

Discussion

These data provide further support that parenting and family factors are critical to consider when developing substance use and sexual risk reduction interventions for male substance abusing young offenders. Improving negative parent–adolescent communication about topics ranging from daily activities to choosing peers may play a pivotal role in decreasing both marijuana use and sexual risk behaviors. However, this study adds to prior literature by finding that when simultaneously considering relevant parenting factors, family emotional responsiveness may have a more unique influence on sexual risk behavior than marijuana use within families of delinquent male youth.

Male adolescents who perceived experiencing less family emotional responsiveness may describe their families as not openly crying, not expressing tenderness or affection, not responding emotionally and/or showing love for each other. Such youth may therefore feel anger and sadness, but yet not know how to appropriately express or regulate those feelings and this lack of emotional competence and regulation has predicted adolescent's engagement in substance use and increased sexual activity (Hessler and Katz 2010). Perhaps these youth are not using condoms during sex to try and achieve a level of intimacy and emotional involvement or responsiveness from their sexual partners that was not experienced in their families. In other words, these youth may be attempting to experience emotionality through their sexual experiences and may perceive that physical barriers, such as condoms, diminish that intimacy and the perceived emotional closeness.

It is also plausible, however, that male adolescents who come from families with poor emotional responsiveness have learned to emotionally disengage from their partners and are unconcerned about their or their partner's health and safety. Such disengagement makes it less likely that they will negotiate condom use. Marijuana use, however, does not have the same emotional transactional quality as sexual activity and may therefore not be as tied to the emotional presentation or expression of others. While it is plausible that male adolescents may use marijuana to regulate their mood or anger so that they may demonstrate more positive affect and emotionality toward others, these data suggest that family emotional responsiveness is not associated with increased use when accounting for other family or parenting factors. Sexual risk reduction interventions for substance abusing young offenders should consider how parenting factors may be differentially related to various risk behaviors. In addition to fostering less negative parent–child communication, family-based HIV prevention interventions for these young offenders should incorporate improving appropriate family emotional responsiveness.

Contrary to most other literature among juvenile offenders, alcohol and marijuana use were unrelated to risky sexual behavior, as measured by proportion of condom use. Variable findings across studies may be attributable to study differences in methodology (i.e., how substance use and unprotected sexual activity are measured) as well as study samples (i.e., participant characteristics and sample sizes). In particular, there may be differences in the strength of the association between sexual risk behavior and substance use for incarcerated juveniles (presumably a more severe subset of the offending population) than juvenile drug court offenders, who are monitored by the court but not typically incarcerated or detained and living freely in the community. It may also appear, in contrast to prior literature, that the

current sample was not at high-risk for HIV/STDs because they reported using condoms 69% of the time. Condom use rates among *community* adolescents has increased in recent years due to widespread media attention and group-level interventions. However, because of the greater frequency of sexual behavior among young offenders relative to their non-offending peers, they reported a mean of three unprotected sex acts (with standard deviation of six unprotected sex acts) in the past 90 days suggesting that their risk for HIV and other STDs remains significant. Condom use rates found in this study are comparable to prior studies examining this variable among similar young offender populations (Lucenko et al. 2003).

While these data are informative, further replication with a larger sample of substance abusing juvenile offenders is warranted. These results should also be replicated with female juvenile offenders and exploring gender differences would be important for future research. Such research could also benefit from including multiple informants (e.g., parents and other family members particularly to measure these family process variables). In addition, family-level variables studied here accounted for only a small percent of the variance in adolescent risk behaviors; however, these findings are consistent with most prior studies in which parenting and family-level variables account for a small amount of the variance in adolescent sexual risk-taking (e.g., Li et al. 2000; Luster and Small 1994; St. Lawrence et al. 2008). Incorporating other types of family-related variables in these models of adolescent risk outcomes to determine if greater variance in adolescent risk behaviors can be explained would further contribute to the literature.

Due to the small sample size, we were unable to explore mediators of the association between family-level variables and risk behavior outcomes to understand the process by which family emotional responsiveness may be related to adolescent condom use. Constructs such as adolescent condom self-efficacy, self-esteem, and partner communication about condom use may potentially mediate the relationship between family emotional responsiveness and adolescent condom use and are worthy of future study. The cross-sectional design also limited our ability to test the direction of effects and/or causal associations among these variables. These analyses also could not test whether regression coefficients differ significantly for family affective responsiveness across the two models; therefore, we cannot make solid conclusions about the effect of family emotional responsiveness on adolescent condom use versus marijuana use. Future studies with larger sample sizes could test such direct comparisons using a path analytic approach. Reliance on self-report measures can lead to individual biases and social desirability; however, sexual risk data, in particular, are difficult to obtain through other data collection methods (e.g., observational, collateral). The FAD measure of affective responsiveness also requires more psychometric testing given its first time use with this population; however, use of scales with alphas ranging from .5–.6 have been found acceptable for exploratory analyses (Kent 2001).

Despite these limitations, these data provide a spring-board for understanding more about the relationship between family/parenting factors and sexual risk-taking for juvenile drug court offenders, for which there is a dearth of literature available to guide the development of successful HIV prevention interventions with this population (Tolou-Shams et al. 2010). Juvenile offenders continue to be at high risk for contracting STIs and HIV. Future research should try to elucidate in greater detail the spectrum of family affective factors associated with their risk as well as to better understand how family processes impact adolescent sexual risk behavior, including both male and female young offenders.

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Table 1

Bivariate correlations of juvenile drug court offenders' substance use, condom use and family/parenting factors ($N = 53$)

Variables	1	2	3	4	5	6	7	8	9
1. Marijuana Use (# of days)	–								
2. Alcohol Use (# of days)	.12	–							
3. Proportion of Condom Use	–.11	–.14	–						
4. Positive Communication	–.29*	.09	.27 ^t	–					
5. Negative Communication	.43***	.24	–.35*	–.44***	–				
6. Parental Monitoring	–.12	.05	.26	.40***	–.11	–			
7. Parental Permissiveness	.27*	–.07	–.20	–.09	.12	–.22 ^t	–		
8. Affective Responsiveness	.24 ^t	.10	–.33*	–.38**	.36**	–.29*	.11	–	
9. Affective Involvement	.35**	.04	–.17	–.16	.30*	.08	.31**	.56***	–
<i>M</i>	5.36	4.03	.69	35.23	30.00	14.68	12.11	13.74	15.83
<i>SD</i>	9.77	6.06	.40	9.39	6.91	4.95	3.96	2.81	3.89
Range	0–30	0–27	0–1	10–50	14–50	4–20	4–20	6–24	7–28

^t
p .10,

*
p .05,

**
p .01,

p .001

Table 2
Linear regression models testing associations between family/parenting factors, proportion of condom use and marijuana use

Variable	Model 1				Model 2			
	Proportion of condom use ($n = 40$) ^a				Marijuana use ($n = 52$) ^a			
	B	SE	B	95% CI	B	SE	B	95% CI
Constant	1.98**	.42		[1.14, 2.82]	−18.31*	7.30		[−32.98, −3.64]
Negative communication	−.02	.01	−.32*	[−.04, −.001]	.50	.20	.35*	[.10, .90]
Affective Responsiveness	−.05	.02	−.29*	[−.09, .000]	.29	.48	.08	[−.66, 1.25]
Parental permissiveness					.43	.32	.17	[−.23, 1.08]
R^2			.16				.17	
F			4.91**				4.55**	

^a n's vary slightly according to missing data across listwise deletion process inherent in multiple regression

* $p < .05$;

** $p < .01$; B unstandardized coefficient, SE Std. Error, β standardized beta, CI confidence interval