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Longitudinal family effects on substance use among an at-risk adolescent sample

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HIGHLIGHTS

- Teens who have an adult in their life that uses marijuana report increased AOD use.
- A greater value on family than individual needs was associated with less alcohol use.
- Living with a mom and dad served as a protective factor for alcohol use.
- Lack of parental monitoring was associated with increased alcohol use.
- Including families could help improve interventions for teen AOD use.

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ABSTRACT

Objective: Adult and peer factors may influence whether adolescents use alcohol and other drugs (AOD). This longitudinal study examined the direct effects of adult monitoring, perceived adult AOD use, and cultural values on adolescent AOD use.
Methods: Participants were 193 at-risk adolescents referred to a California diversion program called Teen Court for a first-time AOD offense. We assessed youth reports of past 30 day AOD use (any alcohol use, heavy drinking, marijuana use), demographics, changes in parental monitoring and family values (from baseline to follow-up 180 days later), as well as family structure and perceived adult substance use at follow-up.
Results: Adolescents who reported that a significant adult in their life used marijuana were more likely to have increased days of drinking, heavy drinking, and marijuana use at follow-up. Higher levels of familism (importance the teen places on their family's needs over their own needs) and being in a nuclear family served as protective factors for future alcohol use. Additionally, poor family management was associated with increased alcohol use and heavy drinking.
Conclusion: Findings highlight how family management and perceptions of adult marijuana use influence subsequent adolescent AOD use, and how an increase in familism over time is associated with a decrease in adolescent drinking. Tailoring interventions, by including the teen's family and/or providing support to adults who use AOD may be crucial for improving interventions for adolescent AOD use.

1. Introduction

Adolescence represents a critical time to prevent alcohol and other drug (AOD) use. Early initiation and regular use are often associated with negative consequences, including problems in school (Broman, 2009; Patton et al., 2007; Wheeler, 2010), early initiation of sexual intercourse (Cavazos-Rehg et al., 2011a, 2011b; Stueve & O'Donnell, 2005), and delinquent behavior (D'Amico, Miles, Stern, & Meredith, 2008; Ford, 2005). Continued use during this developmental time can lead to future AOD use and concurrent physical and mental health problems (D'Amico, Ellickson, Collins, Martino, & Klein, 2005; Ellickson, Martino, & Collins, 2004; Gore et al., 2011; Hingson, Heeren, & Winter, 2006; Merline, Jager, & Schulenberg, 2008; Norström & Pape, 2012; Zucker, Donovan, Masten, Mattson, & Moss, 2008).

1.1. Adult and family influence on youth AOD use

Parents and guardians influence adolescents' development in many ways such as providing family structure, instilling values, and regulating how time is spent. About 91% of adolescents perceive that their parents would disapprove of AOD use, and youth who perceive strong disapproval tend to report less past month AOD use compared to youth who do not perceive strong disapproval (SAMHSA, 2012). In addition, parental monitoring, such as establishing clear rules about AOD use and providing opportunities for involvement in family decisions, have

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been shown to reduce teen AOD use (Cleveland, Feinberg, & Greenberg, 2010; Lac, Alvaro, Crano, & Siegel, 2009; Lac & Crano, 2009; SAMHSA, 2012; Schinke, Fang, & Cole, 2009; Van Ryzin, Fosco, & Dishion, 2012; Vermeulen-Smit et al., 2012), even in high-risk populations (Clark, Shamblen, Ringwalt, & Hanley, 2012; Henderson, Rowe, Dakof, Hawes, & Liddle, 2009). In contrast, a lack of monitoring is associated with earlier initiation and increased AOD use (Adalbjarnardottir & Hafsteinsson, 2001; Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Tobler & Komro, 2010). Encouragement to make healthy choices by fostering positive interactions such as involving teens in family decisions protects against future AOD use and peer influence to use (Donovan, 2004; Jang, Rimal, & Cho, 2013; Wood, Read, Mitchell, & Brand, 2004).

Family structure may also influence future adolescent AOD use (Barrett & Turner, 2006; Donovan, 2004), with an intact nuclear family or two-parent household potentially serving as a protective factor. However, Crawford and Novak (2008) found that whereas family structure has an effect on AOD use, a larger portion of the effect is accounted for by parenting style, indicating that the quality of the family's interaction has a strong effect on youth AOD use.

Substance use by adults important to the teen is also associated with adolescent AOD use. Youth who live with a parent or guardian who uses AOD are at increased risk for greater drinking (Kuntsche & Kuendig, 2006; Latendresse et al., 2008; Mason & Spoth, 2012; van der Vorst, Engels, Meeus, Dekovic, & Van Leeuwe, 2005) and marijuana use (Li, Pentz, & Chou, 2002). Paternal alcohol use is also associated with greater levels of adolescent drinking and greater increases in use (Mares, Lichtwarck-Aschoff, Burk, van der Vorst, & Engels, 2012). Recent parental marijuana use is associated with subsequent initiation of adolescent marijuana use within the next year (Miller, Siegel, Hohman, & Crano, 2013). Of note, parental AOD use significantly affects adolescents' future AOD use even after controlling for peer influences or parenting styles (Adalbjarnardottir & Hafsteinsson, 2001; Li, Pentz, & Chou, 2002; Mrug & McCay, 2012; Vermeulen-Smit et al., 2012).

Two additional family factors associated with adolescent AOD use are familism (i.e., importance the teen places on their family's needs over their own needs) and filial piety (i.e., parental respect; Unger et al., 2002). Recent work has shown the protective nature of familism and filial piety in relation to different racial and ethnic groups (Shih, Miles, Tucker, Zhou, & D'Amico, 2010; Unger et al., 2002; Wahl & Eitle, 2010). High levels of familism serve to protect against heavy drinking among Hispanic adolescents (Wahl & Eitle, 2010) and are also protective for Caucasian and Asian youth (Shih et al., 2010). Filial piety has also been shown to influence Asian adolescents to obey their parents' rules about AOD use (Unger et al., 2002).

1.2. Peer influence on youth AOD use

There is a great deal of work showing that peers influence adolescent AOD use (Barnes et al., 2006; Donovan, 2004; Eitle, 2005; Ramirez, Hinman, Sterling, Weisner, & Campbell, 2012; Tucker et al., 2011), and that peer influence tends to increase during middle school and high school (Steinberg & Monahan, 2007). AOD use also increases during this time, with adolescents who perceive AOD use among their peers increasing their AOD use more substantially than those who do not perceive peer use (D'Amico & McCarthy, 2006; Olds, Thombs, & Tomasek, 2005; Piontek, Kraus, Bjarnason, Demetrovics, & Ramstedt, 2012). Time spent around peers who use AOD has also been shown to be a risk factor associated with AOD use (Maxwell, 2002; Poelen, Engels, Van Der Vorst, Scholte, & Vermulst, 2007). These peer influences have been found in multivariable modeling situations where family factors such as perceived parental use, monitoring, and family structure have also been observed (Bergh, Hagquist, & Starrin, 2010; Crawford & Novak, 2002; van den Bree & Pickworth, 2005; Wood et al., 2004). Historically, research has indicated that peer influence may have a greater impact on adolescent AOD use than family factors (Crawford & Novak, 2002; Jackson, 1997; van den Bree & Pickworth, 2005; Windle, 2000; Wood et al., 2004), with one recent study finding that peer influence becomes an even stronger predictor as adolescents age (Mrug & McCay, 2012). Thus, in any examination of the influence of family factors on adolescents, it is imperative to concurrently control for the influence of an adolescent's peers.

1.3. The current study

The existing research on family influences on adolescent AOD use is limited to cross-sectional evaluations and general population samples. The current study adds to the literature by longitudinally examining how changes in parental monitoring and family values over time are associated with at-risk adolescent AOD use while controlling for peer influence and baseline AOD use.

Secondly, delinquency, such as a first time AOD-related offense, has been shown to be positively associated with changes in AOD use (Mason & Windle, 2002) so one would expect that having this type of offense may affect future AOD use and monitoring. When parents are made aware of a potential AOD use problem, they may exert greater influence over the adolescent or it may be more difficult for them to monitor their adolescent. There is little research examining how parental influence may change once they recognize that AOD use has become a problem for their adolescent. Our data allow us to answer this question by examining whether these specific family factors provide additional protection or risks after an AOD offense.

For each outcome we evaluated the effects of monitoring, family structure and values, and perceived adult AOD use in a series of regression models. We hypothesized that increased monitoring and stronger family values would lead to decreased AOD use, whereas perceptions of adult use would lead to more adolescent AOD use. Further, we expected that these family factors would remain significant even after controlling for peer influences.

2. Methods

2.1. Participants

Participants aged 14 to 18 years old were referred to Santa Barbara Teen Court between 2008 and 2011, a program operated by the Council on Alcoholism and Drug Abuse (D'Amico, Osilla, & Hunter, 2010; D'Amico et al., 2012). These adolescents had committed a first time AOD offense and did not warrant more serious intervention. All study protocols were approved by the institution's review board.

2.2. Procedures

This study was a part of a randomized controlled trial comparing the efficacy of the usual care group AOD sessions to a group-based Motivational Interviewing intervention called *Free Talk* (D'Amico, Hunter, Miles, Ewing, & Osilla, 2013; D'Amico et al., 2010, 2012). Parents of teens younger than 18 years of age were required to consent to their teen's participation and all teens needed to assent (under 18) or consent (18). Both groups received six sessions. Exclusion criteria included multiple serious offenses, referral to another program, or possession of a medical marijuana card. Of those eligible ($n = 216$), 11% were either not interested or unable to participate. Demographically, there were no significant differences between teens that refused and teens who participated in the study. Prior to the hearing, youth completed a survey administered by trained study staff and completed another survey approximately 180 days after completing AOD group sessions. All surveys were administered individually in a private location. The parents were also highly encouraged to attend a 6-session parenting group.