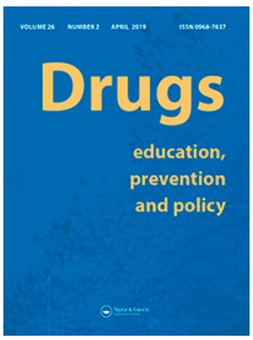

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Parental identification and response to adolescent substance use and substance use disorders

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ABSTRACT

Previous research showing that parents tend to underestimate adolescent substance use is consistent with concerns that adolescent substance use may develop because parents delay in reacting to it. However, little research has examined parental decisions regarding how and when to intervene on adolescent substance use. This study examines the actions that parents report they would take after (a) discovering substance use to intoxication and (b) when they believe their child has a substance use problem. Internet surveys were conducted asking parents ($N = 975$) how they would respond to (a) evidence of their child's use to intoxication and (b) their child's significant problem with either alcohol, cannabis, prescription opioids, or illicit drugs. While parental response to alcohol and cannabis intoxication focused on talking with their children (34% and 45%, respectively) and punishment (30% and 18%, respectively), parents were significantly more likely to report help-seeking behaviors when responding to prescription opioid or illicit drug use intoxication (37% and 30%, respectively). More effective public health initiatives are needed to provide parents with practical strategies to address adolescent substance use and to increase parental engagement in the services offered by addiction specialists.

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Introduction

Alcohol and other drug (AOD) use by adolescents remains a major public health concern in the United States and is a pervasive and significant danger to adolescents' safety and healthy development. The most recent National Survey on Drug Use and Health (NSDUH) reports that among adolescents aged 12–17, 9.6% reported using alcohol and 8.8% reported using an illicit drug in the past month (Center for Behavioral Health Statistics & Quality, 2016). An estimated 5% of adolescents aged 12–17 are reported to have had a substance use disorder (SUD), but unfortunately very few – less than 1% of adolescents – received treatment in 2015 (Center for Behavioral Health Statistics & Quality, 2016).

While not every adolescent that uses AODs will develop an alcohol or SUD, previous research has demonstrated that adolescents who initiate regular AOD use before the age of 16 have a significantly higher risk of developing a SUD later in life (Hingson, Heeren, & Winter, 2006; Moss, Chen, & Yi, 2014; Nelson, Van Ryzin, & Dishion, 2015). Furthermore, adolescent AOD consumption is associated with other risky behaviors (Guo et al., 2002; Hingson, Heeren, Winter, & Wechsler, 2003; Tapert, Aarons, Sedlar, & Brown, 2001), unintentional injuries to themselves and others (Hingson & Zha, 2009), violent behavior (Valois, McKeown, Garrison, & Vincent, 1995), sexual victimization and trauma in girls (Walsh et al., 2014), psychiatric disorders (Becker, Sullivan, Tetrault, Desai, & Fiellin, 2008; McGue & Lacono, 2005; Patton et al., 2002), AOD dependence (Caldeira, O'Grady, Vincent, & Arria, 2012; Chassin, Pitts, & Prost, 2002; McCambridge, McAlaney, & Rowe, 2011), and long-term cognitive impairments (Hanson, Medina, Padula, Tapert, & Brown, 2011; Tucker, Ellickson, Orlando, Martino, & Klein, 2005).

The role of parents

Substance use generally begins with experimentation and progresses to regular substance use (Brook, Zhang, & Brook, 2011; Caldeira et al., 2012; Chen & Jacobson, 2012; Nelson et al., 2015). There is increasing evidence that the family plays a role in the initiation and exacerbation of adolescent AOD problems as well as in the protective aspects of AOD use prevention and treatment (Bell, Atkinson, Williams, Nelson, & Spence, 1996; Brook, Lukoff, & Whiteman, 1980; Brook, Whiteman, Nomura, Scovell Gordon, & Cohen, 1988; Broome, Simpson, & Joe, 2002; Cleveland, Feinberg, & Jones, 2012; Kaufman, 1985). Parental behavior has been shown to have direct effects on adolescent substance use (Bogenschneider, Wu, Raffaele, & Tsay, 1998; David, Catalano, & Miller, 1992; McDermott, 1984; Wood, Read, Mitchell, & Brand, 2004). When parents believe their child is experimenting with AODs, they are more likely to intervene to ward off future substance use (Guilamo-Ramos, Jaccard, Turrisi, Johansson, & Bouris, 2006). Effective parenting strategies that reduce adolescent AOD use include monitoring activities, open communication

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about AODs, and parental enforcement of rules against AOD consumption (Beck, Shattuck, Haynie, Crump, & Simons-Morton, 1999; Crouter, Bumpus, Davis, & McHale, 2005; Darling, Cumsille, Peña-Alampay, & Chatsworth, 2009; Haynie, Beck, Crump, Shattuck, & Simons-Morton, 1999). However, research shows that parents have historically been unable to effectively identify substance use among their children (Beck et al., 1999; Fisher et al., 2006; Guilamo-Ramos et al., 2006; Williams, McDermitt, Bertrand, & Davis, 2003) and that this inability has remained consistent in more recent years (Berge, Sundell, Ojehagen, Hoglund, & Hakansson, 2015); some studies go so far as to show that denial of adolescent substance use is a common characteristic among families of adolescents with SUDs (Habib et al., 2010; Reilly, 1976).

Adolescent engagement in AOD treatment

Early identification and effective treatment are essential for preventing adolescent AOD problems. The National Institute on Drug Abuse (NIDA) advises parents who suspect that their adolescents have engaged in AOD use to have a medical doctor or addiction specialist screen the adolescent for signs of substance use and related health conditions (National Institute on Drug Abuse, National Institutes of Health, & U.S. Department of Health and Human Services, 2014). Adolescent engagement in AOD treatment is a multi-step process, starting with (1) parental recognition of their child's need for care, (2) connecting the parent and child with an AOD resource, and (3) bringing the child for screening by a mental health professional (McKay & Bannon, 2004).

The first stage of NIDA best practices is critical – how do parents determine when their child has an AOD problem? Is merely the identification that a child has used AOD an indication that there is a problem that needs the help of a mental health professional? In addition, once a problem has been identified, what type of health professional do parents turn to for help – pediatricians, school counselors, religious counseling, mental health counselors, psychiatrist, or substance use treatment providers?

In this study, we sought to determine the actions parents said they would take in addressing adolescent AOD use. We asked parents to report the behaviors they would take if they learned that their child had used AODs (e.g. if their child had drunk alcohol; used cannabis; taken prescription opioids non-therapeutically; or used other drugs such as cocaine, heroin, or methamphetamine) and the steps they would take if they believed that their child had a problem related to the use of any of these substances.

Methods

Participants

The sample consisted of 975 parents (and guardians) who reported having a child between the ages of 13 and 17 living in their home. The majority of respondents were female (55.65%) Caucasian (75.81), and had completed at least some college or more (88.30%). The average age of respondents was 46.40 years old, with a standard deviation of 10.99 years. Table 1 contains summary statistics for gender, ethnicity, educational attainment, geographic region, and age.

Table 1. Parent respondent's demographic characteristics[a].

	Alcohol ($N = 248$)		Cannabis ($N = 239$)		Illicit drugs ($N = 249$)		Prescription opioids ($N = 239$)	
	N	(%)	*N*	(%)	*N*	(%)	*N*	(%)
Gender								
Male	110	(44.35)	105	(43.93)	110	(44.18)	105	(43.93)
Female	138	(55.65)	134	(56.07)	139	(55.82)	134	(56.07)
Ethnicity								
White	188	(75.81)	197	(82.43)	210	(84.34)	200	(83.68)
Non-White	56	(22.58)	42	(17.57)	38	(15.26)	38	(15.90)
Education								
Less than high school degree	6	(2.42)	6	(2.51)	7	(2.81)	5	(2.09)
High school degree	21	(8.47)	30	(12.55)	23	(9.24)	26	(10.88)
Some college	79	(31.85)	74	(30.96)	81	(32.53)	78	(32.64)
Associate's or bachelor's degree	77	(31.05)	67	(28.03)	71	(28.51)	62	(25.94)
Graduate degree	63	(25.40)	60	(25.10)	67	(26.91)	68	(28.45)
No response	2	(0.81)	2	(0.84)	0	(0.0)	0	(0.00)
Geographic region								
New England	27	(10.89)	19	(7.95)	19	(7.95)	18	(7.23)
Middle Atlantic	41	(16.53)	25	(10.46)	26	(10.88)	34	(13.65)
East North Central	36	(14.52)	36	(15.06)	40	(16.74)	41	(16.47)
West North Central	15	(6.05)	18	(7.53)	15	(6.28)	18	(7.23)
South Atlantic	40	(16.13)	44	(18.41)	50	(20.92)	37	(14.86)
East South Central	8	(3.23)	13	(5.44)	11	(4.60)	12	(4.82)
West South Central	19	(7.66)	20	(8.37)	27	(11.30)	24	(9.64)
Mountain	25	(10.08)	20	(8.37)	20	(8.37)	17	(6.83)
Pacific	36	(14.52)	44	(18.41)	39	(16.32)	33	(13.25)
No response	1	(0.40)	0	(0.00)	2	(0.84)	5	(2.01)
	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Age								
As at interview	46.40	(10.99)	45.52	(11.12)	45.87	(10.13)	45.46	(9.91)

[a]There were no significant differences in demographic characteristics as a function of drug class.

Survey design

We conducted an anonymous, cross-sectional Internet survey of a sample of adult parents participating in Zoomerang ZoomPanel's United States consumer survey panel in March 2014 using a mixed-methods descriptive design (Creswell & Clark, 2011) consisting of single-response survey questions, and open-ended hypothetical questions. ZoomPanel's consumer survey panel is comprised of over 2,500,000 participants that elect to participate in surveys for payment. We emailed an invitation to a random subsample of participants who indicated they were parents of a child aged 13–17 that stated 'Parents wanted to complete a brief online survey about your views of how best to address adolescents use of alcohol and other drugs.' Before gaining access to the anonymous survey, parents completed an online consent form that briefly stated the nature of the research questions and informed them that their participation was voluntary. The survey consisted of 20 questions that took 10–15 minutes to complete. Surveys in which the parent did not endorse having a child between the ages of 13–17 were excluded from the analyses. The survey did not use cookies and did not collect Internet protocol (IP) addresses. Due to the anonymity provided to participants, the Institutional Review Board at the Treatment Research Institute determined that the study was exempt from Human Subjects Review.

Survey distribution and data collection

From initial invitations sent out to complete the survey ($N = 4237$), 33% were initiated ($N = 1412$) and 26% were completed ($N = 1102$). The survey completion rate fell within the expected range of 25–30% for e-mail surveys that did not provide a follow up reminder for completion (Watt, Simpson, McKillop, & Nunn, 2002). Responses from parents who completed the survey but did not indicate that they had a child between the ages of 13 and 17 living in their home were excluded. Thus, the final sample size was 975 parents. Parents were randomly assigned to complete one of four versions of the survey (detailed below) in order to reduce potential bias for more popularly used substance among adolescents. Chi-square analyses showed no significant differences between survey versions (alcohol, cannabis, prescription opioids, and illicit drugs) on gender, χ^2 (3 df, $N = 975$) = 0.01, $p = 1.00$; ethnicity, χ^2 (3 df, $N = 975$) = 5.96, $p = .11$; educational attainment, χ^2 (18 df, $N = 975$) = 8.70, $p = .97$; or geographic region, χ^2 (27 df, $N = 975$) = 24.33, $p = .61$. A Kruskal–Wallis test revealed no significant differences in the ranks of ages across the four groups χ^2 (3 df, $N = 963$) = 2.10, $p = .55$.

The first section of the online survey, which was common to all versions, gathered information on demographics (age, race/ethnicity, gender, ages of children in the household), and the parent's report of the likelihood of substance use in each drug class by their child (e.g. if their child had drunk alcohol; used cannabis; taken prescription opioids non-therapeutically; or used other drugs such as cocaine, heroin, or methamphetamine). In the second section, parents were randomly assigned to a version of the survey in which questions were answered about only one drug class – alcohol, marijuana, misused prescription opioids (i.e. taken prescription opioids non-therapeutically), or illicit drugs (defined as cocaine, heroin or methamphetamine for the purposes of this study). This second section of the survey asked hypothetical questions to their parents, consisting of 'what would you do if you knew that your child had used the substance to intoxication (self-defined)?' and 'what would you do if you believed that your child had a significant problem with the substance used?'.

Data analysis

We carried out all qualitative analyses using NVivo V.11. We used R V.3.25 to compute summary statistics and to assess the statistical significance of differences across the groups on demographic variables. We used chi-square analysis and Kruskal–Wallis's tests to compare the randomly assigned parent response groups to reports of the likelihood that their children used the substances and had problems related to the substance use. The use of chi-square analyses and Kruskal–Wallis's tests was used to identify any potential effects from demographics, as compared to individual substances hypothetically presented. We defined statistical significance *a priori* using a two-tailed alpha of 0.05.

Two of the authors (BC, KK) developed the coding scheme iteratively using a constant comparative method that enables one to initially reduce data into discrete units before coding it into relevant categories (Corbin & Strauss, 2014; Kolb, 2012). To evaluate reliability, two independent coders (SR and MS) coded responses to these questions from a random sample of 10% of the parents. After completing all independent coding of each drug group, average agreement between raters across all four versions of the survey was high at 99% with good inter-rater reliability ($k = 0.68$). Raters iteratively addressed disagreements, resulting in a final overall average percent agreement between raters of 99% and inter-rater reliability was increased ($k = 0.97$). The final coding scheme consisted of 56 codes (Table 2) organized within eight categories: caretaking, help-seeking, environmental controls, monitoring, punishment, talk, other responses (responses that were not otherwise categorized), and parental non-responses (information that was not considered a parental response).

Results

Quantitative results – parental response to likelihood

Results from analysis of the Likert-scaled, *How likely is it that your child has used [substance] to intoxication*, were positively skewed (i.e. the majority of parents thought it unlikely that their child had ever used the substances to the point of intoxication). Statistical analyses, using Kruskal–Wallis's tests, showed no significant difference across survey versions with respect to parents reporting their child having been drunk, χ^2 (3 df, $N = 975$) = 0.64, $p = .89$; having used cannabis, χ^2 (3 df, $N = 975$) = 3.17, $p = .37$; or having used a prescription opioid to get high, χ^2 (3 df, $N = 975$) = 4.43, $p = .22$. Significant difference across survey versions was shown among responses

Table 2. Primary themes for parental response.

Categories and sub-codes		
Caretaking	**Help seeking**	**Talk**
Alleviate physical symptoms	Counseling for child	Talk to child with goal of improving relationship
Let them sober up	Counseling for family	Talk to child about changing friends or behavior
Make sure they get home safely	Education for child	Talk to child about consequences of use
General caretaking	Education for parent	Talk to child to express disappointment
Environmental Controls	Judicial system	Talk to child to understand motives
Change friends	Medical doctor	Talk to child to solicit information about use
Homeschool	Non-nuclear family members and close family friends	Talk to child to plan safe future actions
Move or change schools	Religious	General talk to child
Remove access to substance	School	Talk to friends of child
Remove access to money	Substance use support group	Talk to parents of other children
General environmental controls	Substance use treatment or rehab	General talking
Monitoring	General help seeking	**Parental non-responses**
Drug test or search for drugs	**Punishment**	Don't believe it's a problem
Monitor social media use	Restrict access to electronics	Don't know
Parental control	Restrict access to extracurricular activities	Missing value
Parental solicitation	Restrict access to friends	Nothing
General monitoring	Restrict ability to drive	Other unspecified
Other Responses	Exacerbate physical symptoms of use or hangover	
Emotional response	Chores	
Intervention	Corporal punishment	
Pray	Volunteering	
Other responses unspecified	General punishment	

Table 3. Likelihood that child has engaged in substance use to intoxication.

	Alcohol ($N = 248$)		Cannabis ($N = 239$)		Illicit drugs ($N = 249$)		Prescription opioids ($N = 239$)	
	N	(%)	*N*	(%)	*N*	(%)	*N*	(%)
How likely is it that your child has:								
Had a drink of alcohol?								
Unlikely	130	(52.42)	124	(51.88)	134	(53.82)	129	(53.97)
Possible	38	(15.32)	43	(17.99)	32	(12.85)	38	(15.9)
Likely	80	(32.26)	72	(30.13)	83	(33.33)	72	(30.13)
Gotten drunk?								
Unlikely	194	(78.23)	193	(80.75)	189	(75.90)	186	(77.82)
Possible	26	(10.48)	22	(9.21)	36	(14.46)	26	(10.88)
Likely	28	(11.29)	24	(10.04)	24	(9.64)	27	(11.30)
Used cannabis before?								
Unlikely	195	(78.63)	196	(82.01)	187	(75.10)	190	(79.5)
Possible	24	(9.68)	14	(5.86)	27	(10.84)	22	(9.21)
Likely	29	(11.69)	29	(12.13)	35	(14.06)	27	(11.3)
Used an illicit drug before?								
Unlikely	237	(95.56)	226	(94.56)	228	(91.57)	227	(94.98)
Possible	8	(3.23)	9	(3.77)	14	(5.62)	7	(2.93)
Likely	3	(1.21)	4	(1.67)	7	(2.81)	5	(2.09)
Used a prescription drug to get high before?								
Unlikely	227	(91.53)	216	(90.38)	214	(85.94)	215	(89.96)
Possible	15	(6.05)	20	(8.37)	25	(10.04)	17	(7.11)
Likely	6	(2.42)	3	(1.26)	10	(4.02)	7	(2.93)

to having taken an illicit drug, χ^2 (3 df, $N = 975$) = 9.30, $p = .03$. Parents given the 'Illicit Drugs' version of the survey were more likely to report that it was of a higher likelihood that their child had used an illicit drug before, compared to parents given the 'Alcohol', 'Cannabis', or 'Prescription Opioids' version of the survey. The complete results, available in Table 3, have been collapsed into three groups: unlikely (1–2), possible (3–5), and likely (6–7).

Qualitative results – parental actions

The results from the next portion of the survey, *What would you do if your child used [substance] to intoxication* (Table 4), and *What would you do if your child had a serious problem with [substance] use (*Table 4), were found to have a statistically significant relationship, between substance class and qualitative code designation, utilizing a chi-square test of independence (χ^2 (21 df, $N = 2506$) = 538.32, $p < .001$; χ^2 (21 df, $N = 1964$) = 38.00, $p = .01$).

Use to intoxication results were similar for alcohol and cannabis with talking and punishment the most often cited actions parents took, and were similar as well as for illicit drugs and prescription opioids with help-seeking and talking the most often cited actions to be taken by parents. Punishment was the least cited action among parent groups for illicit drugs and prescription opioids, perhaps due to the perceived seriousness of these drug classes.

Alcohol

Immediate reaction would be physical concern for their well-being and safety. After they were home and slept it off, there would be a big lengthy talk.

Table 4. Parental responses to [substance] use to intoxication and to a significant problem with [substance].

	Alcohol		Marijuana		Illicit drugs		Prescription opiates	
	Intoxication $N = 630$ %	Problem $N = 475$ %	Intoxication $N = 549$ %	Problem $N = 479$ %	Intoxication $N = 718$ %	Problem $N = 532$ %	Intoxication $N = 609$ %	Problem $N = 478$ %
Caretaking	14	0	1	0	1	0	0	0
Environmental controls	1	3	2	6	5	5	5	4
Help-seeking	7	62	16	59	30	62	37	60
Monitoring	4	5	7	6	10	4	7	5
Other	4	3	6	4	3	3	4	4
Other responses	5	11	4	10	9	14	6	12
Punishment	30	5	18	7	14	4	9	2
Talk	34	12	45	8	28	8	32	13

N represents the number of responses to a given question. Parents often gave multiple actions to each question.

Table 5. Types of help seeking for child that has used substance to intoxication.

	Alcohol ($N = 46$)		Cannabis ($N = 89$)		Illicit drugs ($N = 218$)		Prescription opioids ($N = 223$)	
	N	(%)	*N*	(%)	*N*	(%)	*N*	(%)
General help seeking	6	(13.04)	14	(15.73)	47	(21.56)	49	(21.97)
Substance use treatment or rehab	1	(2.17)	9	(10.11)	24	(11.01)	25	(11.21)
Counseling for child	10	(21.74)	29	(32.58)	61	(27.98)	57	(25.56)
Education for child	11	(23.91)	14	(15.73)	17	(7.80)	13	(5.83)
Medical doctor	2	(4.35)	3	(3.37)	18	(8.26)	31	(13.90)
Judicial system	6	(13.04)	8	(8.99)	8	(3.67)	6	(2.69)
Substance use support group	2	(4.35)	2	(2.25)	4	(1.83)	12	(5.38)
School personnel	3	(6.52)	4	(4.49)	8	(3.67)	9	(4.04)
Counseling for family	1	(2.17)	2	(2.25)	7	(3.21)	6	(2.69)
Religious	2	(4.35)	2	(2.25)	7	(3.21)	5	(2.24)
Other family members and friends	1	(2.17)	1	(1.12)	17	(7.80)	5	(2.24)
Education for parent	1	(2.17)	1	(1.12)	0	(0.00)	5	(2.24)

N represents the number of responses to a given question. Parents often gave multiple actions to each question.

Cannabis

Have an honest discussion about why did this happen and what it would take to not do this again.

Illicit drugs

Have a serious talk with the child about its dangers. Consider taking to counseling to discuss why he would want to take drugs or how to prevent it.

Prescription opioids

Extensive drug rehab ASAP remove him from all current situations that may have encouraged drug use, no cell phone and continue to support recovery in a positive way.

Significant problem results were similar across all drug classes – alcohol, cannabis, illicit drugs, and prescription opioids. A majority of parents cited help-seeking actions most often for all drug classes (i.e. greater or equal to 59%). Furthermore, punishment was among the least cited action for all drug classes.

Alcohol

Get them into counseling and an alcohol treatment program. Also be very supportive.

Cannabis

Pray for her, have her see a counselor, restrict her activities with friends who partake, try to find other activities she might like, encourage her in school and work goals.

Illicit drugs

Get help, counseling, rehab, whatever was necessary to get them away from it.

Prescription opioids

Admit them into a rehabilitation center. I really am involved with all the kids and their friends- I would be devastated and distraught.

Help-seeking actions

Further analysis of help-seeking actions for *[Substance] use to intoxication* (Table 5) and *Significant problem with [substance] use* (Table 6) revealed significant differences between the substances presented in the randomly assigned survey (e.g. alcohol, marijuana, illicit drugs, or prescription opiates) via a chi-square test (χ^2 (33 df, $N = 576$) = 69.78, $p < .001$; χ^2 (33 df, $N = 1197$) = 69.78, $p < .001$). For example, the majority of help-seeking responses given to alcohol intoxication related to educating the child, but for cannabis, illicit drugs and prescription opioid intoxication, the majority of parents reported they would seek counseling for their child (Table 4). Additionally, the majority of respondents to the alcohol and marijuana intoxification question did not report they would take any help-seeking actions.

When asked what they would do if there were a significant problem with alcohol or cannabis, parents most frequently responded with general help-seeking, rather than

Table 6. Types of help seeking for a serious substance use problem.

	Alcohol (*N* = 294)		Cannabis (*N* = 283)		Illicit drugs (*N* = 332)		Prescription opioids (*N* = 288)	
	N	(%)	*N*	(%)	*N*	(%)	*N*	(%)
General help seeking	84	(28.57)	71	(25.09)	74	(22.29)	64	(22.22)
Substance use treatment or rehab	65	(22.11)	67	(23.67)	110	(33.13)	85	(29.51)
Counseling for child	68	(23.13)	67	(23.67)	57	(17.17)	44	(15.28)
Medical doctor	23	(7.82)	21	(7.42)	23	(6.93)	39	(13.54)
Substance use support group	20	(6.80)	6	(2.12)	9	(2.71)	12	(4.17)
School personnel	13	(4.42)	10	(3.53)	4	(1.20)	6	(2.08)
Counseling for family	7	(2.38)	5	(1.77)	8	(2.41)	7	(2.43)
Judicial system	2	(0.68)	9	(3.18)	13	(3.92)	10	(3.47)
Education for child	2	(0.68)	14	(4.95)	7	(2.11)	2	(0.69)
Religious	4	(1.36)	9	(3.18)	7	(2.11)	8	(2.78)
Other family members and friends	4	(1.36)	4	(1.41)	18	(5.42)	4	(1.39)
Education for parent	2	(0.68)	0	(0.00)	2	(0.60)	7	(2.43)

N represents the number of responses to a given question. Parents often gave multiple actions to each question.

specify the type of help-seeking behavior they would take. However, parents who responded to the illicit drugs and prescription opioids questionnaires specified substance use treatment centers as places from which they would seek help most frequently (Table 5).

The proportion of responses identified as specifically seeking help from a medical professional (i.e. doctor, ER, psychiatrist) was low across all parental responses coded as help-seeking for both survey questions. Though responses were low overall, the *Use to intoxication question* resulted in equivalent selections of seeking help from a medical provider for alcohol (4%) and cannabis (3%), but this percentage increased for illicit drugs (8%) and prescription opioids (14%). The second question, *significant problem with use*, resulted in similarly low percentages for seeking help from a medical provider as it related to alcohol (5%), cannabis (4%), and illicit drugs (4%), but increased for prescription opioids (8%).

Discussion

Substance use affects millions of adolescents in the United States, but very few – an estimated 10% – receive substance use treatment (Substance Abuse & Mental Health Services Administration, 2015). Adolescent engagement in substance use treatment typically begins with parental identification of a substance use problem and a determination of the appropriate actions to take in response. However, parents have historically been poor at both identifying AOD use and identifying when there is a problem (Beck et al., 1999; Fisher et al., 2006; Williams et al., 2003), and this has remained consisted in more recent studies (Berge et al., 2015). Consistent with this research, the majority of parents in this sample also reported it was unlikely that their child had ever gotten drunk or used cannabis, illicit drugs, or prescription medication recreationally. While we did not ask the children in this sample if they had used AOD directly, national surveys indicate that about 25–28% of the children have used AODs (Center for Behavioral Health Statistics & Quality, 2016).

The National Institute on Alcohol Abuse and Alcoholism, the National Institute on Drug Abuse and the American Academy of Pediatrics recommend that parents have their adolescents seen by a medical professional if substance use is identified or suspected (American Academy of Pediatrics, 2011; National Institute on Drug Abuse, National Institutes of Health, & U.S. Department of Health and Human Services, 2014; U.S. Department of Health & Human Services, National Institutes of Health, & National Institute on Alcohol Abuse & Alcoholism, 2009). The results from this study indicate there is a disconnect between what professionals recommend and what parents report they would do if they believe their adolescent have used AODs. Parents in this study reported that if there was evidence their child had engaged in non-illicit substance use, they would prefer to talk to or punish their children, rather than immediately seek the guidance of a medical professional. However, this disconnect between recommendations and the actions parents said they would take is not as pronounced in relation to substance use involving illicit substances or opioid use, where parents selected some form of help-seeking actions more often. This may be because parents identify illicit substances and opioid use as a more serious problem. It is also potentially a by-product of parents' perception that any use, if not perceived as a problem, is likely to correct itself. However, given recommendations that any reported use is best addressed by seeking the help of a professional, the percentage of parents who report they would seek help from a medical professional is still lower than should be deemed acceptable given the recommendations from the NIAAA, NIDA, and the AAP (American Academy of Pediatrics, 2011; National Institute on Drug Abuse, National Institutes of Health, & U.S. Department of Health and Human Services, 2014; U.S. Department of Health & Human Services, National Institutes of Health, & National Institute on Alcohol Abuse & Alcoholism, 2009).

In the study, few responses indicated that parents would seek any form of help for alcohol intoxication (less than 1 in 10) or cannabis intoxication (less than 1 in 5). In fact, for alcohol and cannabis intoxication, punishment actions were the second most cited after talking. Without evidenced-based AOD intervention, adolescents who experiment with substances may progress to regular use (Brook et al., 2011; Caldeira et al., 2012; Chen & Jacobson, 2012; Nelson et al., 2015). Furthermore, adolescents who have used alcohol or marijuana are much more likely to use other substances (Kirby & Barry, 2012; Secades-Villa, Garcia-Rodríguez, Jin, Wang, & Blanco, 2015). While informed conversations about AOD use have been shown to be an effective tool in preventing AOD

use before it has started (Griffin & Botvin, 2010), they have not been proven effective as a form of AOD intervention. Seeking medical intervention, such as screening and brief intervention (SBI), for substance use that has already occurred can prevent future substance use (Mitchell, Gryczynski, O'Grady, & Schwartz, 2013). The lack of help-seeking behavior at this stage in AOD use indicates that parents need additional educational and public health outreach mechanisms and points to the need for primary care physicians to perform SBIRT (Screening, Brief Intervention, and Referral to Treatment).

Parental responses to the study's second question, about actions parents would take if their child had a significant substance use problem, resulted most often in help-seeking actions. When compared to the general substance use question (Question 1), where they reported help-seeking actions most commonly when the substance involved was either illicit or prescription based, it seems likely that parents would select help-seeking actions when substance use is presented as significant. Since research shows that significant use can lead to more problems, future interventions should focus on educating parents about the importance of seeking help at an earlier point. Future research to prove this 'significant or severity problem' hypothesis should attempt to measure whether these interventions can truly prevent more significant problems.

The most common type of help-seeking actions that parents offered for both questions included counseling for the child and substance use treatment (45–50%). However, very few parents specifically indicated a willingness to seek help from a traditional medical doctor (e.g. primary care physician) when they detected problematic substance use (5–8%). This finding suggests that the majority of parents did not immediately consider doctors as a source of help when addressing their adolescent's AOD use. The reason parents did not consider asking a medical doctor for help may be the result of a variety of factors (e.g. reluctance to discuss these topics with their child's primary care doctor, lack of mental health insurance coverage, or ineffective public health campaigns). Practical barriers including the inconvenience of travel and cost of care may also dissuade parents from seeking help from a medical professional (Owens et al., 2002). However, when most adolescents (76%) have at least one visit per year with a medical provider (U.S. Census Bureau, 2011), this opportunity could provide the basis for promoting regular screening of substance use and SUD symptoms at these office visits. Follow-up studies should be conducted with parents to identify primary barriers to seeking assistance from medical professionals as well as potential solutions to overcome these barriers.

The barrier to engaging a medical profession for AOD screening and intervention is not limited to parents, however. Medical professionals have been reluctant in the past to screen for substance use, and the quality of screening and assessment for AOD use disorders delivered by medical professionals has been lackluster (Levy, Harris, Sherritt, Angulo, & Knight, 2006a, 2006b). To address this concern, the American Academy of Pediatrics (AAP) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) have developed guides for the medical professional for alcohol and drug screening, brief intervention and referral to treatment (SBIRT) (American Academy of Pediatrics, 2011; National Institute on Alcohol Abuse and Alcoholism, American Academy of Pediatrics, & Department of Health and Human Services, 2011). Even if a parent does not reach out to a medical professional in response to suspected AOD use or problem, practitioners could still engage in SBIRT during visits for other reasons (e.g. annual physicals).

While this study provides some important insights into parental responses, they should be interpreted within the context of several limitations. First, we cannot be certain that parents would use only the strategies they reported in the survey or that parents would respond in a real-life situation in the same manner as identified in this hypothetical scenario. Furthermore, when we questioned parents about what they would do in response to their child's AOD use, the survey did not specify a time-based relationship to guide their responses. Many parents reported behaviors they would take immediately while others described future behaviors. The lack of temporal specificity may explain why parents in the current study infrequently reported utilizing monitoring behaviors (4–10%) and environmental controls (1–5%) to address their adolescent's substance use. It should also be noted that the higher response rates to the illicit drug survey may have potentially resulted in a priming effect, due to the sensitivity to more illicit substances as compared to alcohol and other socially acceptable substances (i.e. marijuana). Additionally, as is typical of many Internet studies, the sample was predominantly white and well-educated, and therefore not representative of the overall American population. As such, it is possible that lower socio-economic status families (those without access to college education), may not be adequately represented in the results. The sample bias, however, makes the results all the more striking. Even among well-educated parents, national guidelines for addressing adolescent substance use are apparently not being followed, with very few parents reporting monitoring and help-seeking behaviors in response to their adolescent's hypothesized AOD use.

Conclusions

This study suggests that 'best practice' advice from various national experts on substance use is not being effectively disseminated to parents in the United States. Parents need additional opportunities to learn about the best ways not only to identify substance use, but also to understand that any amount of substance use can be significant. Similarly, medical professionals and AOD screening interventions should be utilized at higher rates, and earlier in the AOD use timeline. Future research that clarifies why parents don't seek the help of medical professionals and why medical professionals do not conduct routine substance use screening can provide valuable insight for the intervention and prevention field. While there is always more research to be done, these findings suggest we should focus on increasing the awareness of what constitutes significant AOD use, the harms of any significant substance use, and the best methods of identifying substance use, particularly in adolescents.

Disclosure statement

No potential conflict of interest was reported by the authors.

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