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Understanding the Diverse Needs of Children whose Parents Abuse Substances

Jessica M. Solis, Julia M. Shadur, Alison R. Burns, and Andrea M. Hussong*

Department of Psychology, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3270 USA

Abstract

In this review, we consider the potential service needs of children of substance abusing parents based on what we know about the risk outcomes faced by these children and the parenting deficits often present in these families. Importantly, our review does not address the etiological role of parental substance abuse in children's negative outcomes but instead we discuss the complex inter-related risk factors that often co-occur with and exacerbate risk associated with parental alcohol and drug use. We first review studies showing the elevated risk that children of substance abusing parents face in general for poorer academic functioning; emotional, behavioral, and social problems; and an earlier onset of substance use, faster acceleration in substance use patterns, and higher rates of alcohol and drug use disorders. We then review studies showing contextual risk factors for children of substance abusing parents, including parenting deficits (less warmth, responsiveness, and physical and verbal engagement as well as harsher and more over-involved interaction styles), greater risk for child maltreatment, and less secure attachment patterns. We conclude with a discussion of future directions for research and guidelines for professionals working with children and their families where parental substance abuse is present.

Keywords

Academic achievement; attachment; behavioral functioning; child outcomes; cognitive functioning; emotional functioning; families; maltreatment; mental health; parental substance abuse; parental alcohol abuse; parenting; risk factors; substance dependence; treatment needs

INTRODUCTION

Substance use disorders are a significant public health concern and rank among the most common psychiatric disorders beginning in young adulthood [1]. These disorders are highly disabling, frequently co-occur with and even exacerbate other mental and physical health problems, and show a strong familial pattern [2,3]. For example, in studies of community samples, children of substance abusing parents are more than twice as likely to have an alcohol and/or drug use disorder themselves by young adulthood as compared to their peers [4]. Moreover, children of substance abusing parents are at risk for a wide variety of other negative outcomes, including emotional, social, and behavioral adjustment problems as well as challenges in cognitive and academic functioning. Risk for poor emotional and behavioral outcomes among children living with a parent who has a substance abuse history are reported among those as young as 2 to 3 years of age [5–7].

Not surprisingly, these elevated rates of disturbance increase the use of public health services for children of substance abusing parents, with these children and their families over-represented in welfare, mental health, and special education services [8]. Moreover, recent estimates indicate that 11 percent of all children live in families where one or more parents abuse alcohol or other drugs [8]. Thus, children of substance abusing parents are both a large and multi-risk population deserving of effective services. For these reasons, the need to target these children and their families as a vulnerable group is among the top health priorities identified by the Surgeon General in his 2007 report on underage drinking [9]. Despite this clear need, few empirically-supported prevention programs target this at-risk population. Nonetheless, it is important to recognize that many children of substance abusing parents are resilient and show positive outcomes despite the risks to which they are exposed. Although some studies estimate that as many as half of these children will develop a substance use disorder by young adulthood, clearly the same number do not [10].

The key question that we seek to address in the current review is thus “what are the potential service needs of children of substance abusing parents based on what we know about the risk outcomes faced by these children and the parenting deficits often present in these families?” To address this question, we first briefly discuss the way in which parental substance abuse is defined in the literature and identify co-occurring risk factors. Next, we review studies that suggest needs that children of substance abusing parents may have based on their risk for negative outcomes including academic and cognitive functioning; emotional, behavioral and social adjustment; and substance use. We then review studies that comment on the connection between family context and child need, recognizing risk associated with parenting styles, maltreatment, and attachment patterns. Finally, we conclude by discussing future directions for research and potential guidelines for professionals who work with families facing these demands, with the goal of improving these children's lives.

PARENTAL SUBSTANCE ABUSE AND THE FAMILY CONTEXT

Substance involvement includes a spectrum of alcohol and drug using behaviors ranging from initiation and occasional use through addictive processes involving physiological dependence and consequences that severely impair life functioning. Research on the effects of parents' substance involvement on children has included indicators of parents' drinking patterns (frequency of drinking and/or heavy drinking), consequences and dependency symptoms, and diagnostic levels of a substance use disorder. Although most research has focused on parental alcohol involvement, the effects of parents' illegal drug use on their children have also been examined. Among these indicators of parental substance use, evidence of a substance use disorder and more frequent consequences and dependency symptoms appear to be the strongest and most consistent predictor of child impairment [11,12].

Among children whose parents have a substance use disorder, risk for negative outcomes are highly variable. This risk is reliably higher for some negative outcomes if parents also have another psychiatric disorder (e.g., depression or antisocial personality disorder) or if both parents have a substance use disorder rather than just one parent [5,6,11]. Additional complicating factors in assessing risk for these children is that their family environments are, on average, marked by greater life stressors (particularly family-related stress; [15]), marital discord and conflict, and residential and caretaker instability [16–18]. These factors are also documented risk indicators in and of themselves for children's negative outcomes and illustrate an important point. Namely, that parental substance abuse is a marker for a host of potentially negative risk markers that also increase children's risk for poor adjustment. Although some of the risk that children of substance abusing parents face may

be uniquely associated with their parents' substance abuse, some of this risk is also likely not. In the current review, we do not attempt to address this important etiological question. Rather, we attempt to highlight the broad categories in which some children of substance abusing parents may evidence risk for poor outcomes, creating needs that must often be met by their caretaking environments.

In reviewing this literature, our goal is to highlight the pattern of findings rather than to present an exhaustive review of contributing studies. As such, several steps were taken to identify relevant literature. First, a thorough literature review was conducted using PsycInfo and PubMed using variants of keywords such as 'parent alcohol*', 'children of substance abusing parents', 'parent* drug use'. We reviewed both articles and chapters from this search if they were published after 1975 and were written in English. In addition, we reviewed reference lists of these works to identify other relevant research. The work we highlight in the following review was selected to represent the pattern of findings in the literature based on methodological strengths and integration of empirical findings. Peer-reviewed articles that exemplify such trends are reviewed in greater detail in Tables 1 and 2.

POTENTIAL VULNERABILITIES AMONG CHILDREN OF PARENTS WHO ABUSE SUBSTANCES

Although parental substance abuse is associated with a variety of negative outcomes in children, we focus our review on three broad domains which may be particularly pertinent in determining services for this at-risk population. These include: academic and cognitive functioning; mental health functioning as indicated by emotional, behavioral, and social adjustment; and substance involvement. A summary of key studies that address these risks is provided in Table 1.

Academic and cognitive functioning

Most studies that examine the relation between parental substance abuse and children's academic functioning focus on parents' alcohol, rather than drug, use disorders. In this work, parental alcoholism is consistently associated with lower academic functioning including lower grade point averages, increased grade retention, and failure to pursue secondary education [19–22]. On average, children whose parents evidence alcoholism show weaker performance in reading, spelling, and math during early and middle childhood compared to their peers [23].

However, other findings show that risk for academic difficulties may be more nuanced [24]. Sons from families in which both parents reported alcoholism or at least one parent reported significant antisocial behavior and alcoholism were deemed to be at high risk for academic failure. As expected, high-risk boys performed worse on math in middle childhood and reading achievement in late childhood as compared to boys from other (low-risk) families. To better understand these effects, adversity was explored by categorizing families as vulnerable (high-risk with high family strain and conflict), resilient (high-risk with low family strain/conflict), troubled (low-risk with high family strain/conflict), or non-challenged (low-risk with low family strain/conflict). During late adolescence (ages 12–14), vulnerable boys scored lower than those characterized as non-challenged or resilient in both reading and spelling, and lower than non-challenged boys in arithmetic. However, in early adolescence (ages 9–11), resilient boys scored almost as well as non-challenged boys in reading and spelling and there were no differences between resilient, vulnerable and non-challenged boys on academic performance in childhood (ages 6–8). These findings indicate that in the absence of family strain and conflict, the academic performance of boys of

alcoholic parents may be similar to that of boys of non-alcoholic parents in some circumstances and at some points in development.

Many factors may account for the association between parental substance abuse and children's academic challenges. One important potential explanation is that children of substance abusing parents may show cognitive deficits that impact their academic performance. Unfortunately, results from studies about the effect of parental substance abuse on children's cognitive development are inconsistent. Two lines of research address this issue. First, neuropsychological studies examine the correlation between parental substance abuse and children's intellectual and memory performance on standardized tests. These studies provide mixed results, with some finding no association between parental alcoholism and mental, motor, or language development in infants and toddlers [25] whereas others report lower intellectual functioning in children of parents with alcoholism during elementary school [23]. When present, the clinical significance of this impairment is also unclear as Poon, Ellis, Fitzgerald and Zucker [26] found that sons of alcoholic fathers had lower full scale IQ scores than boys without an alcoholic father, though their scores still fell within "normal" levels of intellectual functioning.

These mixed results may in part be due to important qualifiers of the association between parental alcoholism and children's cognitive functioning, such that cognitive impairments may only emerge in some children. For example, density or the number of alcoholic relatives appears to impact this risk. Boys with multiple generations of male alcoholic relatives (e.g., a father plus other biological male relatives) show deficits in verbal and abstract reasoning, verbal learning, performance IQ, and memory compared to boys without an alcoholic father [27,28]. Moreover, Ozkaragoz, Satz, and Noble [29] found that 10–14 year old boys performed worse on general intellectual functioning as well as visuospatial, memory, and attention tasks if their fathers were actively alcoholic versus not diagnosed with alcohol dependence. In contrast, there was no difference in neuropsychological functioning between sons of recovering alcoholics and non-alcoholics. Thus, whether the father is currently abusing alcohol or in recovery is another potential qualifier.

The domain in which impairment occurs may also be a qualifier. For example, Wilson, McCreary, Kean and Baxter [22] compared the cognitive performance of pre-school aged children of mothers who abused heroin to those of children whose mothers were in either a high-risk medical or control group. After controlling for age, sex, birth weight, and socioeconomic status, children of mothers who abused heroin displayed significantly lower performance on quantitative and auditory memory tasks than did children in the other groups. However, their scores were not significantly different on measures of psycholinguistics, visual association, visual closure, general memory, visual perception, auditory perception, tactile perception, and general levels of IQ.

A second line of research investigating cognitive functioning in children of substance abusing parents focuses on the effects of prenatal exposure. The literature has provided several examples of the teratogenic effects of alcohol and drugs on cognitive development from infancy through adolescence. For instance, prenatal alcohol exposure is characterized by central nervous system deficits that can include intellectual delays and learning disabilities [30]. Interestingly, whereas children with Fetal Alcohol Syndrome may have difficulties with acquiring and learning new information [31], their ability to remember learned information may not be as deficient as previously believed [32,33]. In contrast to these studies of prenatal alcohol exposure, a review of 21 studies of prenatal cocaine exposure on 4- to 13-year-old children by Lester and LaGasse [34] reported similarly negative effects on IQ, school performance, and academic achievement in only 7 of the observed studies [35–41]. Thus, research findings concerning the impact of prenatal drug

exposure on children's cognitive development appear more consistent for parental alcohol than for cocaine exposure.

Unfortunately, there is a lack of systematic, longitudinal research investigating the effects of other forms of prenatal drug use on children's cognitive and academic performance [42]. One of the few published studies on the longitudinal effect of prenatal methamphetamine exposure on school-age children comes from Sweden. At age four, prenatally-exposed children to methamphetamine abuse by their mothers exhibited significantly lower mean IQ scores than control children [43]. At age eight, these same children displayed delays in the subjects of mathematics and language and greater grade retention [44].

In sum, parental substance abuse is associated with poorer academic and cognitive functioning, though findings are inconsistent. The extent of risk may be associated with such factors as family adversity, child age, recovery status of the parent, and the timing and type of drug abused. Collectively, these studies indicate that prenatal maternal substance abuse may impact cognitive functioning in children depending on the drug of abuse. Clearly, methodological limitations include the relative lack of longitudinal studies, particularly those assessing parent drug abuse, and the challenge of integrating findings across such diverse indices of cognitive functioning. Further research is needed to better understand when and for whom parental substance abuse is related to academic and cognitive functioning.

Emotional, behavioral, and social adjustment

Compared to their peers, children of substance abusing parents show increased rates of anxiety, depression, oppositional behavior, conduct problems, and aggressive behavior as well as lower rates of self-esteem and social competence [45–48]. By young adulthood, mood disorders in children of alcoholics are nearly double those of their peers [10]. Although much of this literature does concern parental alcoholism, versus other drugs of abuse, children of parents in methadone maintenance also show greater rates of problem behavior than do their peers [49], including conduct disorder (in boys) and social skills deficits (in girls and boys; [50]). Additionally, some have found that parental drug and alcohol dependence are both equally predictive of children's behavioral disorders (e.g., aggression and delinquency), though compared to other illicit drug use, parental marijuana dependence may be least likely to predict adolescents' behavioral problems [51].

Whether this risk is specific to parental substance abuse versus attributable to other co-occurring risk factors is less clear. Some studies show that parental alcoholism is unrelated to anxiety and depression in children after accounting for the stronger effects of parental depression or anxiety disorders [45,52]. Moreover, others have also found that when the effects of co-occurring parental psychopathology are accounted for, parental drug use does not predict variability in children's anxiety, depression, conduct problems, or attention-deficit hyperactivity disorder; rather, the most predictive indicator of children's symptomatology is having parents with the same symptomatology [53]. However, others have found a unique effect for parental alcoholism above and beyond cooccurring parental psychopathology in predicting children's internalizing (i.e., anxiety and depression) and externalizing (i.e., aggression and delinquency) symptoms [5,6].

More consistent findings emerge in studies of the additive rather than unique effects of co-occurring parental psychopathology and substance abuse (as reported above). For example, we found that children in families of parents with co-occurring substance use disorders and psychopathology had greater risk for emotional, behavioral, and social problems than their peers in families whose parents only had a substance use disorder [6,11]. These findings are based on an integrative data analysis [54] involving the simultaneous analysis of two

longitudinal high-risk studies [45,55]. These studies have many methodological strengths including use of community samples rather than treatment samples (to increase generalizability and avoid other sampling biases), directly interviewing both parents and children, use of a control group, inclusion of fathers, and matching families with and without alcoholic parents on the basis of child gender, age, ethnicity, and family socioeconomic indicators. Moreover, the studies collectively cover a broad age range to assess child and adolescent development (ages 2 through 17 in these analyses).

In these studies, children showed greater rates of emotional and behavioral problems if their alcoholic parent also had either depression (i.e., depressed alcoholic families) or antisocial behavior problems (i.e., antisocial alcoholic families) than if they did not (i.e., alcoholic only families). Externalizing symptoms were greatest among children in antisocial alcoholic families, followed by children in depressed, alcoholic families, children in alcoholic families without depression and antisocial behavior, and then children of non-alcoholic parents. Similarly, internalizing symptoms were greatest among children in depressed alcoholic families, followed by children of antisocial alcoholic parents who were similar to children of alcoholic-only parents. These group differences were consistent over time, suggesting that heightened risk for externalizing symptoms (particularly among children of antisocial alcoholic parents) and internalizing symptoms (particularly among children in depressed alcoholic parents) is present early in childhood and persists through adolescence.

Findings from these studies also showed greater risk for problem outcomes in children from families with multiple alcoholic parents (two versus one). Specifically, families with two alcoholic parents showed greater risk for social competence deficits as compared to children from families with one alcoholic parent [46]. Moreover, after controlling for parental depression and antisocial behavior, children with two alcoholic parents versus one showed greater risk for internalizing symptoms, for parent-reported externalizing symptoms from ages 2 through adolescence, and for child-reported externalizing symptoms during late adolescence [5,6]. When parental depression and antisocial behavior were controlled, however, children with one alcoholic parent did not differ from controls in parent-reported internalizing and externalizing symptoms, though having one alcoholic parent did continue to predict greater children's reported symptomatology.

A final factor that modifies risk for problem outcomes among children of alcoholics is whether or not a problem-drinking parent is actively drinking or in recovery. Specifically, children whose alcoholic parents are actively engaged in problem drinking show greater externalizing symptoms as well as anxiety and depression compared to children of non-alcoholic parents; however, children whose parents had stopped problem drinking can present similarly to those whose parents never abused alcohol [45,56]. However, it is not clear that the timing of the parents' problem drinking alone accounts for children's risk for negative outcomes. Evidence that internalizing and externalizing symptoms increase when their parents show more alcohol-related consequences is weak, with the level of adolescents' symptoms being more clearly and consistently associated with simply having a parent with a lifetime history of an alcohol disorder [11,12,57]. These findings suggest that for some adolescents, risk for internalizing and externalizing symptoms associated with parent alcoholism may not abate only by reducing the parent's alcohol involvement. Rather, differences in parents' course of problem drinking may index variability in genetic risk, the cumulative effects of these risk environments on child development, or even developmental sensitive periods for children's exposure to their parents' drinking.

In sum, children of substance abusing parents show increased risk for emotional, behavioral, and social problems. In some cases, these problems may emerge in early childhood and persist through adolescence. Several factors contribute to variability in this risk, however,

including co-occurring parental psychopathology, the number of alcoholic parents in the family, and the recovery status of the problem drinking parent. It will be critical for future researchers and treatment providers to consider these factors that contribute to risk and which also explain part of the variability in outcomes among children of substance abusing parents. Parents and their children who face these multiple risk factors may likely need additional support from treatment providers. Future research studies that employ longitudinal designs and consider mediating pathways will allow a more complete understanding of the mechanisms that explain increased risk for emotional and behavioral disorders in these children.

Substance involvement

Perhaps the most clear and specific risk shown by children of alcohol abusing and dependent parents is for substance involvement in these youth (e.g., [10,16,58]). By young adulthood, 53% of these children evidence an alcohol or drug use disorder as compared to 25% of their peers. Heritability estimates range from 50–60%, with behavioral genetics studies indicating that family transmission of alcohol and substance use disorders is in part due to a substantial genetic component [59]. However, environmental factors clearly also play a role and may modify this risk. For example, Dick and colleagues [60,61] showed that genetic influences are stronger in environments with low parental monitoring and more substance-using friends. Current models thus suggest that genetic and environmental factors interact in different ways across development to impact risk for substance use disorders among children of substance abusing parents [59].

However, these children and young adults also show risk for other indicators of alcohol and drug involvement. Specifically, children of alcoholics initiate substance use earlier and increase their rates of use more quickly [10,62]. Importantly, we have also found that these youth progress or telescope faster from the point of drinking initiation to alcohol and drug use disorders than do their peers [63]. Their risk for such telescoping was robust after controlling for age of drinking initiation and did not differ by gender. Results from a survival analysis showed that an average of about four years separated the time from initiation to disorder for the first 25% of children of alcoholics who eventually evidenced an alcohol use disorder to do so versus seven years for the first 25% of their peers who evidenced an alcohol use disorder to do so. For drug use disorders, an average of 5 years separated the time to disorder for the first 10% of children of alcoholics versus just over 8 years for their counterparts.

Clearly, children of substance abusing parents vary in their risk for these negative outcomes. Families with two alcoholic parents showed greater risk for accelerated progression from alcohol use to disorder [15]. Moreover, children of parents with alcoholism and co-occurring psychopathology also evidenced stronger telescoping effects than those whose alcoholic parents did not show comorbidity [15]. Although strengths of these studies include the use of community-based samples that capture a wider range of alcohol use involvement in parents, use of longitudinal designs, and direct ascertainment of parental alcohol use, these studies do rely on adolescents' self-reported alcohol and drug use. Future studies that use bioassays may indicate differences in rates of risk for children of alcoholic and non-alcoholic parents.

Summary

Children of substance abusing parents show a broad risk for negative outcomes, though many of the underlying risk processes may be associated with factors that co-occur with parent alcoholism (e.g., parental depression, conflict in the home) rather than with parental substance abuse per se. In the existing literature, the unique risk associated with parental

substance abuse is difficult to determine. However, results of this large body of literature suggest the following conclusions about risks faced by children of substance abusing parents in comparison to children of non-substance abusing parents.

- In general, parental substance abuse is associated with poorer academic functioning.
- The association between parental substance abuse and children's cognitive development is less certain.
- Prenatal exposure to alcohol and other substances may be an influential factor in these academic and cognitive deficits.
- Children of substance abusing parents also exhibit higher levels of internalizing (e.g., anxiety, depression, low self-esteem) and externalizing symptoms (e.g., conduct problems, aggression) than their peers.
- Factors that minimize risk for children's social and emotional functioning include parental remission of alcohol use or having one (not two) problem-drinking parents.
- The presence of co-occurring parental psychopathology, such as depression, anxiety, and antisocial behavior, increases risk for children's internalizing and externalizing behavior in the context of parental alcohol and substance use disorders.
- Children of alcoholic parents show a specific and unique risk for earlier onset of substance use, faster acceleration in their patterns of substance use, and higher rates of alcohol and drug use disorders than do children of non-alcoholic parents.

POTENTIAL VULNERABILITIES AMONG PARENTS WHO ABUSE SUBSTANCES

An estimated 11 percent of children in the US grow up in the home of an adult with a substance abuse history or current addiction [8]. Ongoing substance use disorders in caretakers can be highly impairing and impact financial, social, cognitive, health, and emotional functioning. These impairments, in turn, may interfere with the ability of the parent to care for his or her child. Below, we briefly review primary areas in which parents with a substance use disorder are vulnerable to deficits (see Table 2 for key studies).

Parenting styles

Most of the research on parental substance abuse and parenting behaviors focuses on mother-child dyads during infancy and toddlerhood, though findings appear to be consistent in studies that follow youth into adolescence. In general, these studies find that mothers who abuse substances typically are less responsive to their children and display less warmth, encouragement, and engagement during interactions with their children [56,64–66]. Additionally, as these children enter adolescence, both maternal alcohol and drug abuse are associated with authoritarian, over-involved parenting styles; more harsh, commanding, and punitive discipline; and less parental monitoring [56,66–69].

However, the type of substance being abused may be associated with the type and quality of interaction between the parent and child. For example, according to Mayes and Truman [70], parents abusing alcohol, marijuana, heroin, or other anxiolytic drugs are more likely to display depressed or withdrawn behavior during interactions with their young children. On the other hand, mothers abusing cocaine or other stimulants are more likely to be intrusive,

impulsive, and even hostile with their children, though some studies do not show these differences in very young children [71].

Although most studies focus on maternal substance abuse, those studies that include fathers report similar results. For example, fathers with versus without an alcohol use disorder show higher negative affect, less sensitivity, low levels of positive engagement, and a lower quality and number of verbalizations during observed interactions with their toddlers and young children [65,72]. Additionally, fathers' substance abuse is associated with poorer quality and less effective discipline in interactions with their sons during late childhood [73]. In adolescence, paternal alcoholism is associated with greater father-adolescent and mother-adolescent conflict, though not parent-child support [74], though contrasting results were also reported in a study of a small sample of adolescent girls [66].

When comparing the relative influences of maternal versus paternal alcoholism, Chassin and colleagues found that after controlling for co-occurring parental psychopathology (i.e., depression and antisocial behavior), biological mothers' alcoholism predicts lower rates of monitoring in fathers whereas biological father's alcoholism is unrelated to either parent's monitoring [62]. Moreover, Curran and Chassin [75] showed that the parenting behavior of a non-alcoholic mother did not meaningfully reduce risk for externalizing symptoms, alcohol use or drug use in children of fathers with alcoholism (i.e., compensatory parenting). Studies of young children (aged 18–36 months), however, do show that mother-child relationship factors (i.e., attachment security, see below) may buffer children's risk for negative outcomes associated with having an alcoholic father.

In sum, the majority of studies find that mothers who abuse substances demonstrate less responsiveness and warmth and more authoritarian and punitive parenting styles with their children. Similarly, fathers who abuse substances show less sensitivity, engagement, and effective discipline during interactions with their children. These effects may vary depending on the age of the child. Evidence for compensatory parenting remains mixed and future research should seek to determine the circumstances under which the interactions of unimpaired parents can substantially reduce risk for negative outcomes in these children. Although studies with young children largely relied on observational assessments of parenting style, such methods are rare with older children and adolescence. The extent to which these differences in parenting style are impacted by rater bias (by parents or teens) is unclear and the use of observational methods for older children may be an important direction for future research to clarify the nature of the actual versus perceived parenting environment associated with parental substance abuse.

Child maltreatment

In 2008, child protective service agencies received 3.3 million reports of child abuse in the general US population with 772,000 children determined to be victims of maltreatment [9]. Children of substance abusing parents have a greater risk of maltreatment, including physical abuse, sexual abuse, and neglect. Although clearly not all parents who abuse substances engage in maltreatment, these families are over-represented in reported and investigated cases of maltreatment. Studies have estimated that between 40% and 80% of substantiated child maltreatment cases involve children of substance abusing parents [76,77]. These children are 2.7 times more likely to be physically or sexually abused and 4.2 times more likely to be neglected than children who do not live with a substance abusing parent [78,79]. In addition, substance abusing parents are at greater risk for multiple child maltreatment allegations, being more likely than other parents to have a second child maltreatment report filed against them [80,81]. This risk may be particularly elevated in young children [80].

Parents with a lifetime substance use diagnosis reported significantly higher potential for physical child abuse, such as rigid beliefs about children and parenting difficulties, than parents without a substance use diagnosis [82]. No differences were found in child abuse potential among parents with a current diagnosis and parents with a past diagnosis [83], indicating that the risk for child maltreatment may not be affected by sobriety. However, substance use diagnosis only predicted elevated child abuse potential in fathers, and not mothers, when other parent and child factors were controlled.

In sum, children of alcohol and drug abusing parents are over-represented in social services investigations and services for child maltreatment. Findings are less consistent, however, regarding the extent to which factors commonly associated with child abuse potential are elevated in children of substance abusing parents. These findings beg the question of what factors are actually associated with risk for maltreatment in children of substance abusing parents.

Attachment styles

Attachment theory posits that infants obtain an understanding of the world and what to expect from their relationships with others based on whether their caregivers are consistent, sensitive, and responsive to their needs [84]. Attachment styles reflect the nature of the parent-child relationship and are considered to be secure (i.e., children seek comfort from caregivers and respond positively when reunited with caregivers after a separation) or insecure (i.e., children may show no distress when caregivers leave and may show ambivalence or indifference when reunited with caregivers). Infants who are exposed to substances prenatally or whose parents abuse substances postnatally tend to develop insecure attachment styles (e.g., [65,85,86]). This risk may be particularly high in families where other mental health problems accompany parental substance abuse. For example, Edwards, Eiden and Leonard [87] showed that families in which either parent had a drinking problem as well as co-occurring psychopathology (i.e., depression or antisocial behavior) were more likely to show insecure mother-infant attachment patterns than were problem drinking families without co-occurring psychopathology.

Much of this work, however, confounds prenatal and postnatal exposure to parental substance abuse and it is unclear the extent to which having a substance abusing parent impacts attachment styles above and beyond prenatal exposure to substances. Seifer *et al.* [88] addressed this question by measuring both prenatal and postnatal drug exposure in the same sample, a key methodological strength of this study. Although the majority of infants were securely attached regardless of maternal substance abuse status, they found small effects for prenatal cocaine, opiate, and alcohol exposure to increase risk for insecure attachments. They also found larger but short-term effects for postnatal alcohol exposure that existed in mother-child dyads when children were 18 months of age but that dissipated by the time the children were 36 months of age. These findings suggest that risk for insecure attachments in mother-infant dyads is greatest at the youngest ages and this pattern of findings may be related to risks associated with prenatal exposure.

However, the impact of insecure attachment styles on children of substance abusing parents may depend on whether there is a non-substance-abusing caregiver in the family who can offset this risk. Edwards *et al.* [89] showed that toddlers with problem-drinking fathers who were able to develop secure attachments with their mothers were better adjusted (i.e., fewer externalizing and internalizing problems) than those lacking this secure relationship. This is an encouraging finding as infants with only one problem-drinking parent were less likely to be insecurely attached to both of their parents compared to infants with two problem drinking parents. Thus, the presence of a non-substance involved caretaker may create

opportunities for secure relationships in children of substance abusing parents, and these secure relationships may in turn buffer risk for negative outcomes.

Regardless, some research indicates that confounding variables such as parenting quality and sensitivity may have a greater impact than parental substance abuse on attachment quality. For example, Bergin and McCollough [90] tested whether attachment patterns among infants prenatally exposed to multiple substances differed from those of a matched-control group of infants at equal social risk (i.e., low income, single parents) but who were not exposed to drugs in-utero. Results showed that observed patterns of attachment and maternal sensitivity were the same among both drug-exposed and non-exposed 12-month old infants. Moreover, the key predictors of attachment style were maternal sensitivity and involvement and not maternal drug abuse, though all of these factors were correlated. These findings suggest that caregiving quality and social risk may be more predictive of attachment patterns than prenatal exposure to multiple substances. Although one strength of this study includes capturing several confounding variables related to social risk and parenting quality, a clear limitation is that postnatal substance exposure was not measured, leaving open the question of the effects of postnatal parental substance abuse on children's attachment style above and beyond the effects of caregiving quality and social risk.

These findings suggest that parental substance abuse is associated with insecure attachment in general. However, a variety of factors other than parental substance abuse also impact attachment security, including social risk, general parenting style, sensitivity, and responsiveness. Thus, although children of substance abusing parents appear to show more insecure attachments to their caregivers than do their peers, factors other than the parents' alcohol and drug abuse may explain this association. Continued research efforts will need to appropriately capture and control for these confounding factors that impact attachment in order to determine the unique risk associated with parental substance abuse. Future researchers will also need to appropriately parse prenatal and postnatal exposure to parental substance abuse. Findings suggest that children may be in need of services very early in childhood, with support from treatment providers to develop positive parent-child relationships from birth. Treatment providers can also support children and families by assessing for protective factors in the family that can offset risk, including the presence of a non-substance abusing caregiver.

Summary

Parental substance abuse is associated with a number of other family-based risk factors for negative outcomes in children, though other factors within the caregiving context may actually reduce this risk in some circumstances. Thus, parents' substance abuse is a marker variable representing a complex environment of inter-related, co-occurring vulnerability factors. Much remains to be learned about the association between parental substance abuse and the caregiving environment, particularly concerning the relative risks for children associated with prenatal versus postnatal drug exposure and the mechanisms that underlie the association between parents' substance abuse and the maltreatment of children. However, results from this emerging body of literature suggest the following conclusions about potential risk factors in the caregiving contexts of children whose parents abuse substances versus children whose parents do not.

- Substance abusing mothers typically show less warmth, responsiveness, and physical and verbal engagement as well as harsher and more over-involved interaction styles with their children than non-substance abusing mothers.
- The limited research on substance abusing fathers and young children suggests that they display less sensitivity, engagement, and effective discipline with their children than do non-substance abusing fathers.

- Parental substance abuse is associated with greater risk for child maltreatment and multiple child maltreatment allegations.
- Children of substance abusing parents tend to develop less secure attachment patterns, but this trend may be due to other associated factors such as social risk, low-income status, comorbid parental psychopathology, sensitivity, and parenting style.
- Children of substance abusing parents who have a secure relationship with a non-substance abusing parent show higher rates of positive adjustment compared to those who do not.

CONCLUSIONS

In the current review, we described the increased risks that children of substance abusing parents show for adjustment problems in both the child and family context. We also identified important caveats, noting that not all of these children or families show such adjustment problems. In some cases, children of substance abusing parents did not differ from their peers. Factors that appear to influence this level of risk include the number of impaired parents, the recency of substance abuse and recovery status of the parent, co-occurring parental psychopathology, and the presence of other caretakers. Other factors that likely play a role but are less well-documented include the type of drug abused and the timing of the parents' substance abuse in the child's life.

Despite the large literature on children of substance abusing parents, few studies have focused on the extent to which deficits in parenting mediate the effects of parents' substance abuse on child outcomes. Two examples that we highlight here indicate that parenting may be part of the reason for these negative outcomes. First, Chassin, Curran, Hussong and Colder [62] showed that parents' monitoring of their children accounted, in part, for the association between parental alcoholism and escalations in adolescents' substance use over time. Other contributors to this risk included increased greater life stressors within the family, resulting in greater internalizing symptoms in these youth and associations with deviant peers which directly predicted steeper escalations in adolescent substance use. Second, looking in early childhood, Eiden, Edwards and Leonard [91] showed that father's alcohol use diagnoses when children were 12–18 months of age predicted lower paternal warmth/sensitivity when children were age 2, which in turn predicted lower child self-regulation at age 3 and greater externalizing symptoms in kindergarten. These studies represent an important body of literature indicating that parenting and family context may in part account for the risk for negative outcomes faced by children of substance abusing parents. However, this conclusion requires greater attention to genetically informed samples that can differentiate such environmentally mediated risk mechanisms from shared genetic factors in parents and their children that also underlie this pattern of findings.

Importantly, despite the noted association between parental substance abuse and these negative outcomes for children, parents' alcohol or drug abuse does not solely explain why these children are at risk. Co-occurring risk factors including other forms of parent psychopathology and family adversity including poverty, conflict, and family structure sometimes better explained risk in these children than did the parents' substance abuse history. Acknowledging the incredible diversity in the level and form of risk for negative outcomes faced by children of substance abusing parents, we believe broad generalizations about these children and their families are unwarranted. Instead, we recommend focusing on those factors that may alter or explain levels of risk among these families.

GUIDELINES FOR PROFESSIONALS

Our review of the literature points to several guidelines and considerations for professionals working with families and children of substance abusing parents (see Table 3). First, the findings clearly indicate a great deal of variability in risk for negative outcomes among children of substance abusing parents, with many children exhibiting resilience and normal functioning. It will thus be critical for treatment professionals to consider the wide range of possible outcomes for these children and families. Second, several key factors that increase children's risk include having two (rather than one) alcoholic parents, having alcoholic parents with comorbid psychopathology (e.g., depression or antisocial behavior), and having parents who are currently abusing alcohol or drugs. Given these factors that predict risk, it will be important for treatment providers to assess for these indicators of increased risk. Third, we emphasize that parental alcohol and drug use disorders are often associated with a variety of risk factors (e.g., comorbid parental psychopathology, family adversity) that impact parenting and child outcomes. Thus, the context in which alcohol or drug use is occurring will be important for professionals to assess to determine which other co-occurring risk factors may be relevant to child functioning and may indicate appropriate treatment targets. Fourth, deficits in child functioning and parenting behaviors among substance- and alcohol-abusing parents may emerge in early childhood. Treatment providers are advised to assess for and consider potential negative outcomes even among young children. Identifying deficits earlier in childhood will benefit children and families before problems continue to develop, and will also support prevention efforts in this area. Fifth, the findings suggest that both prenatal exposure and post-natal exposure uniquely increase risk for these children. Thus, it is important to consider that even if a child was not exposed prenatally, any continued exposure beyond birth can still increase risk for negative outcomes.

FUTURE DIRECTIONS FOR RESEARCHERS

There are many remaining questions related to the impact of parental substance abuse on parenting and child outcomes, leaving the field open for continued exploration. We present several future research questions and guidelines to further advance our understanding. Future researchers should consider other factors within substance abusing populations that can impact child outcomes, including unique effects for different drugs of abuse and the timing of parental substance abuse patterns in their children's lives. As noted above, few studies have explored deficits in parenting as mediators of the effects of parental substance abuse on child outcomes. Future studies that consider such mediating mechanisms will help us better understand pathways of risk. Genetically informed samples will also be critical in order to parse environmentally mediated risk from shared genetic risk among substance abusing parents and their children. The current field calls for methodologically rigorous studies that employ longitudinal designs and that capture various constructs across multiple levels of analysis (e.g., genetics, behavior, dyadic interactions, family, community, and society). Given findings from the current review, it will also be critical for future studies to account for confounding variables that often co-occur with parental substance abuse as well as to parse prenatal and postnatal substance abuse exposure in predicting children's risk. The use of quasi-experimental designs and statistical equating procedures (e.g., propensity scores, statistical matching) are likely important tools for addressing this issue.

These future directions highlight the limited information that we currently have about the ways in which children of substance abusing parents come to manifest risk for a variety of negative outcomes. Deficits in the family context may contribute to these risk mechanisms, but few studies consider these family factors within the broader context of co-occurring risk factors that may impact the development of children of substance abusing parents at multiple

levels of analysis. Moreover, the complexity of these risk mechanisms is only beginning to be recognized in emerging studies and sets an agenda for translational research that can more adequately inform the service needs of this high-risk population.

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Future Research Questions

- Other aspects of parents' substance abuse that likely play a role in children's adjustment, such as the type of drug abused and the timing of the parents' substance abuse in the child's life, should be further assessed in future research.
- Despite the large literature on children of substance abusing parents, few studies have focused on the extent to which deficits in parenting mediate the effects of parents' substance abuse on child outcomes. Therefore, future studies should continue to investigate the role of parenting and the family context as explanatory reasons for children's negative outcomes.
- Greater empirical attention should also be paid to genetically informed samples that can differentiate environmentally mediated risk mechanisms from shared genetic factors in substance abusing parents and their children.

Key Learning Objectives

- Among children of substance abusing parents, risk for negative outcomes are highly variable. This risk is reliably higher for some negative outcomes if parents also have another psychiatric disorder or if both parents have a substance use disorder rather than just one parent.
- Children of substance abusing parents are at increased risk for emotional, behavioral, and social problems and display an earlier onset of substance use, faster acceleration in substance use patterns, and higher rates of alcohol and drug use disorders.
- Conflicting evidence also indicates that parental substance abuse is associated with poorer academic and cognitive functioning among children.
- It is important to note that not all of these children or families show such adjustment problems. In some cases, children of substance abusing parents did not differ from their peers. Factors that appear to influence this level of risk include the number of impaired parents, the recency of substance abuse and recovery status of the parent, co-occurring parental psychopathology, and the presence of other caretakers.

Table 1

Select Studies of the Association Between Parental Substance Use and Child Vulnerabilities

Source	Construct	Participants	Procedure	Findings	Weaknesses	Strengths
Ozkaragoz, Satz, & Noble (1997)	Cognitive Functioning	184 10–14 year-old boys whose fathers were actively alcoholic, recovering alcoholic, or social drinkers; boys' overall IQ was controlled for in analyses	Fathers completed diagnostic assessments; children completed neuropsychological measures of cognitive and emotional functioning and general intelligence	Boys with active alcoholic fathers performed worse than boys with fathers who were social drinkers on general intellectual functioning and tasks of visuospatial skills, memory, and attention; no significant differences were found in these same measures between sons of recovering alcoholics and sons of social drinkers	Sample only included male children; other potential environmental and genetic explanatory factors were not explored; did not control for parental and child comorbid psychopathology	Structured diagnostic instruments were used; analyses controlled for potential confounds; subgroups of boys were identified based on fathers' type of alcoholism
Zucker, Wong, Puttler, & Fitzgerald (2003)	Academic Functioning	303 3–5 year-old boys (at time 1) and their mothers and fathers followed for 9 years; families were intact; parents included those with and without diagnoses of Alcohol Abuse/Dependence, Antisocial Personality Disorder, and a control group without psychopathology; boys were matched on age	Longitudinal design; parents completed the DIS for themselves and measures of behavior and temperament for their sons; children completed measures of intellectual functioning, academic achievement, and self-esteem	Boys with high parental psychopathology performed worse on arithmetic in middle childhood and reading in late childhood compared to boys from low parental psychopathology; during early adolescence, vulnerable boys (high parental psychopathology and low child adaptation) scored lower than nonchallenged boys (normal child adaptation under low parental psychopathology) and resilient boys (high child adaptation under high parental psychopathology) in reading and spelling, and lower than nonchallenged boys in arithmetic; resilient boys scored almost as well as nonchallenged boys in reading and spelling	Sample only included male children; assessment of academic achievement was limited to reading, arithmetic, and spelling; explanatory mechanisms were not identified; genetic factors were not considered	Structured diagnostic instruments were used; both mothers' and fathers' psychopathology was assessed; controlled for potential confounds; longitudinal design; level of family adversity, parental alcoholism and antisocial personality were measured; resilient children were included in sample
Hussong, Flora, Curran,	Emotional and Social Functioning	811–991 (across two community samples) 2–17-	Longitudinal design; parents completed the DIS	Children with only one alcoholic parent	Possible bias in parents' report of children's	Direct interviews conducted with

Source	Construct	Participants	Procedure	Findings	Weaknesses	Strengths
Chassin, & Zucker (2008) Hussong, Wirth, Edwards, Curran, Chassin, & Zucker (2007)		year-old children of alcoholic parents; included mothers and fathers; a control group was matched on child gender, age, ethnicity, and SES; integrative data analysis was used to merge samples	and reported problem drinking, depression, and antisocial behavior; mothers, fathers, and children all completed measures assessing children's internalizing and externalizing symptoms (CBCL and Youth Self Report)	(compared to those with two) showed lower rates of problem behavior; for externalizing behavior this effect was seen in adolescence only; for internalizing, this effect was seen across development but was only true for girls; comorbid parental alcoholism with depression or antisocial behavior further increased risk for COAs' symptoms	behavior; unable to parse environmental versus genetic risk; assessment did not capture children's level of exposure to parental depression, alcoholism, and antisocial behavior	both parents and children; included community samples with matched control-group; longitudinal design; large age range; large sample size and high statistical power; use of integrative data analysis
Hussong, Bauer, & Chassin (2008)	Substance Use	Community sample of 131 11–16-year-old (at time 1) children of alcoholic parents and 83 matched controls; children were followed across 5 time points (mean age 23.5); adolescents who reported alcohol use initiation were retained for analyses	Longitudinal design; parents reported onset and frequency of drinking, completed the DIS, and reported on problem drinking, depression, and antisocial behavior, parents completed the CBCL to report on adolescents' externalizing symptoms; alcohol/drug use disorders were assessed using the DIS	COAs progressed more quickly from the point of drinking initiation to alcohol and drug use disorders, and this risk existed after controlling for age of drinking initiation and did not differ by gender; families with two alcoholic parents showed greater risk for accelerated progression from alcohol use to disorder, and COAs whose parents also exhibited co-occurring psychopathology also evidenced stronger telescoping effects than those whose alcoholic parents did not show comorbidity	Small sample sizes of subgroups for various analyses may have resulted in limited statistical power; did not assess disorder beyond young adulthood	Direct interviews conducted with both parents and children; included a community sample with a matched control-group; longitudinal design from adolescence through young adulthood

Note: SUD= substance use disorders; COAs = children of alcoholic parents; DIS = Diagnostic Interview Schedule; CBCL = Child Behavior Checklist.

Table 2

Select Studies of the Association Between Parental Substance Use and Parenting Vulnerabilities

Source	Construct	Participants	Procedure	Findings	Weaknesses	Strengths
Kandel (1990)	Parenting Styles	222 6–11 year-old children (92% fell within this age range) and at least one of their parents was included	Parents completed self-report measures of their parenting, their substance use over their lifetime (alcohol and illicit drugs) and over the past 12 months (alcohol only), and also reported on their children's behavior	Mothers with lifetime or current drug involvement and/or heavy drinking in the last year were more likely to use punitive forms of discipline and display less parental supervision, closeness, discussion, and positive involvement with their child; fathers with lifetime drug involvement showed less affection but more supervision of their child; fathers' alcohol and drug use over the past year was associated with less punitive discipline, and more discussions and positive involvement with their child	Small sample of fathers; possible bias in parental self report of parenting styles and behaviors; lacked statistical controls	Measured current and lifetime alcohol and drug use; included a community sample of both mothers and fathers
Eiden, Edwards, & Leonard (2002)	Parenting Styles	223 12-month-old infants and their parents; community sample of mothers and fathers with and without a SUD diagnosis; the control group was matched on demographic covariates	Parents completed measures of depression, antisocial behavior, family conflict, and infant temperament; observational measurements of parent-infant interactions and attachment were also conducted	Mothers and fathers with alcohol problems were significantly less likely to display sensitivity during interactions with their infant	Smaller sample of alcoholic mothers; possible bias in self report measures of parental alcohol use and psychopathology	Observational measures of parent-infant interactions were conducted; included a community sample of mothers and fathers; controlled for potential confounds
Bergin, & McCollough (2009)	Attachment Quality	70 12-month-old infants and their mothers; community sample of primarily single mothers (92%) at poverty level (93%) who were primarily polysubstance users; a matched control group of mothers was included	Infants and mothers were observed on measures of maternal involvement and maternal sensitivity; The Waters and Dean Attachment Behavior Q-Set observational measure was used	Attachment and maternal sensitivity were the same across groups, and the key predictors of attachment were maternal sensitivity and involvement—not maternal drug use; caregiving ability and social risk may be more predictive than	Small sample; only assessed mother-child relations; assessment did not capture postnatal substance exposure, making it impossible to parse prenatal vs postnatal exposure effects on attachment	Attachment Behavior Q-Set measure provided more naturalistic observation of mother-child interactions; included community sample with a matched control-group

Source	Construct	Participants	Procedure	Findings	Weaknesses	Strengths
				maternal drug use of attachment patterns		
Kelleher, Chaffin, Hollenberg, & Fischer (1994)	Child Maltreatment	11,662 adults from four communities; 378 adults reported physical abuse or neglect of their child; a control group of 378 adults were matched on age, race, gender, community, SES	Participants completed the DIS; 5 items assessed abuse or neglect, and SUD diagnoses were established	Lifetime SUD diagnoses were significantly higher in abusive and neglectful parents than controls; parents with a SUD were 2.7 times more likely to report physically abusive behaviors and 4.2 times more likely to report neglect; SUD predicted abuse and neglect after controlling for confounds	Possible bias in parental report of abusive behaviors; no temporal ordering of abuse and substance abuse/dependence and therefore causal inferences were not possible	Structured diagnostic assessments were used; included a community sample; controlled for potential confounds
Ammerman, Kolko, Kirisci, Blackson, & Dawes (1999)	Child Maltreatment	290 10–12-year-old boys and their biological mothers and fathers both with and without a SUD diagnosis; families were intact	Parents completed the Child Abuse Potential Inventory, diagnostic measures, and additional self report measures; children completed measures about themselves and their parents	Abuse potential was significantly higher in mothers and fathers with a SUD history than in parents without a SUD; no differences in abuse potential between parents with a current diagnosis and with a past diagnosis; SUD history was only a significant predictor of fathers' abuse potential when other factors were controlled	Possible bias in parental self report of abusive behaviors; no direct measure of child abuse; only assessed physical abuse	Structured diagnostic assessments were used; included both mothers and fathers; controlled for potential confounds

Note: SUD= substance use disorders; DIS = Diagnostic Interview Schedule.

Table 3**Considerations for Professionals Working with Children of Substance Abusing Parents**

1.	Although many children of substance abusing parents may show risk for negative outcomes, many are resilient and show normal functioning. Professionals should be mindful of the wide variability in risk for negative outcomes in children from these families.
2.	The nature of parental impairment impacts children's risk outcomes. Risk for negative outcomes is greater for children from families with two (versus one) alcoholic parents, alcoholic parents who have co-occurring depression or antisocial behavior, and, in some cases, parents who are currently abusing alcohol or drugs (versus recovered). Assessment of parental substance use history and current use are indicated to determine child risk.
3.	Parental alcohol and drug use disorders are non-specific risk factors. These disorders are associated with a host of other negative risk factors for children including other forms of parental mental health disorders (e.g., depression and antisocial behaviors) and family adversity. Moreover, children of substance abusing parents show a broad profile of risk. Assessments in these families should be sensitive to co-occurring risk factors and adopt a broad perspective on child functioning to more accurately characterize the strengths and weaknesses of these families.
4.	Deficits in parenting behaviors and child functioning may be present in some children of substance abusing parents from early childhood. Attention to potential negative outcomes even in young children of substance abusing parents is indicated.
5.	Although prenatal exposure to substances, including alcohol and illicit drugs, is one mechanism of risk for these children, studies show increased risk for negative outcomes in children of alcoholic parents who deny prenatal exposure (from the mother) relative to children of non-alcoholic parents from similar backgrounds. Thus, regardless of whether children were prenatally exposed, they appear to be at increased risk for negative outcomes.