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Effects of parental alcohol misuse on children and adolescents: A literature review

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Abstract

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA), 71.8% of men and 59.6% of women had at least one drink in 2012, where a majority of men who drank were shown to indulge in binge drinking behavior (5+ drinks). Families with parental alcohol misuse are distinguished as having poorer family functioning, higher levels of unresolved conflict, a less cohesive perception of their environment, and lower levels of warmth and caring attitudes and behaviors. Alcohol misuse can lead to bad parenting and modeling behavior for children and adolescents. Depending on prenatal or postnatal exposure, the impact of parental alcohol misuse may change per individual. Misuse in families usually occurs in the context of many other complex issues. The factors that influence the effect of parental alcohol misuse on offspring include demographics of both the child and the alcohol misusing parent, the length of parental alcohol misuse, family history with alcohol, resiliency of the child, levels of parental conflict, parent/child relations, and sibling and peer relationships. This paper focuses on behavioral, academic, cognitive, and emotional deficits that children of alcoholics (COAs) experience and the various intervention programs that can be utilized with this population to prevent further deterioration. Parental alcohol misuse's effect on children and adolescents has been well researched. Areas of future research are identified.

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EFFECTS OF PARENTAL ALCOHOL MISUSE ON CHILDREN AND ADOLESCENTS: A
LITERATURE REVIEW

A THESIS

SUBMITTED TO THE FACULTY

OF

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Abstract

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA), 71.8% of men and 59.6% of women had at least one drink in 2012, where a majority of men who drank were shown to indulge in binge drinking behavior (5+ drinks). Families with parental alcohol misuse are distinguished as having poorer family functioning, higher levels of unresolved conflict, a less cohesive perception of their environment, and lower levels of warmth and caring attitudes and behaviors. Alcohol misuse can lead to bad parenting and modeling behavior for children and adolescents. Depending on prenatal or postnatal exposure, the impact of parental alcohol misuse may change per individual. Misuse in families usually occurs in the context of many other complex issues. The factors that influence the effect of parental alcohol misuse on offspring include demographics of both the child and the alcohol misusing parent, the length of parental alcohol misuse, family history with alcohol, resiliency of the child, levels of parental conflict, parent/child relations, and sibling and peer relationships. This paper focuses on behavioral, academic, cognitive, and emotional deficits that children of alcoholics (COAs) experience and the various intervention programs that can be utilized with this population to prevent further deterioration. Parental alcohol misuse's effect on children and adolescents has been well researched. Areas of future research are identified.

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EFFECTS OF PARENTAL ALCOHOL MISUSE ON CHILDREN AND ADOLESCENTS: A
LITERATURE REVIEW

Purpose and Scope of the Review

The purpose of this literature review is to examine the effects of parental alcohol misuse and alcoholism on children and adolescents. Research concerning children of alcoholics (COA's) and adolescents of alcoholics (AOA's) will be looked at in relation to the various deficits that arise and their connectedness to having one or more alcoholic parents. These deficits include behavioral, academic, cognitive, and emotional. Each of these areas has been researched extensively and various hypotheses concerning cause and effect relations have been made. There is a wide-ranging body of literature concerning the impact of parental alcohol issues on children and adolescents. This review does not attempt to cover all the literature in its entirety, but hopes to cover pertinent older research as well as more recent research in the area. In addition, there will be issues covered that have not been researched comprehensively. They include the importance of sibling relationships, the effect of immediate family relations, and the impact of the non-immediate family on COAs. Furthermore, various intervention techniques will be reviewed for better understanding of how these deficits can be managed.

Definitions of Alcohol Misuse and Alcoholism

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA) people drink mainly to socialize and relax (Maxwell, 2002). Alcohol's effects vary based on amount, length, and frequency of consumption. Effects of alcohol depend on age and family history of use as well. Consequences of drinking too much can include reduced inhibitions, memory problems, concentration difficulties, motor impairment, and slurred speech, to name a few. These impairments can lead to numerous complications throughout an individual's life, including risky

or violent behavior, suicide or homicide, vehicular accidents, and legal issues. Not only can alcohol use cause immediate impairments and concerns, but it can also result in higher blood pressure, strokes, cardiomyopathy, and impaired functioning of the liver and pancreas (Fuller, Jotangia, & Farrell, 2007). Misuse of alcohol can lead to cancers, especially of the mouth, throat and liver which can lead to an overall weaker immune system (NIAAA, n.d.a).

There are many terms used synonymously with alcohol misuse, including ‘alcohol abuse,’ ‘alcohol dependence,’ ‘problem drinking,’ ‘binge drinking,’ and ‘risky drinking behavior.’ However, often times these phrases are not defined properly by the researchers/general public and have different connotations when being used. According to Phillips (2004), the words ‘addiction,’ ‘abuse,’ and ‘dependence’ are used more often in psychiatric and medical settings than phrases such as ‘problem use’ and ‘misuse,’ which are used more often when dealing with the negative psychosocial aspects of alcohol issues (Phillips, 2004).

When trying to define alcohol misuse in the United States, literature on problematic alcohol use among adolescents shows significant disagreement on how to define it (Fuller et al., 2007; Hays & Ellickson, 1996;). These definitions range from the very broad to the very specific, with some researchers using broad measures and others using large multiple-item questionnaires (Dielman, Shope, Leech, & Butchart, 1989; Donovan & Jessor, 1983; Jessor, 1987). According to an older article by Donovan and Jessor (1983), problematic drug and alcohol use can be identified as having been ‘drunk or very, very high’ six or more times in the past year or having had several drug-related problems, including having experienced negative social or personal consequences at least twice in the year. A more recent work by Fuller et al. (2007) specifically mentioned number of drinks, reporting that men who regularly drink more than eight drinks per

day and women who regularly drink more than six drinks per day can be considered harmful drinkers (Fuller et al., 2007). Other studies, like the one written by Dielman et al. (1989), deal more specifically with multiple item questionnaires that cover issues ranging from overindulgence and attitude towards alcohol to more interpersonal and societal issues like trouble with adults and peers, legal actions against the individual, and risky behaviors (Dielman et al., 1989; Fuller et al., 2007).

What accounts for such variability in the way researchers define alcohol use, abuse, and alcoholism? Hays and Ellickson (1996) mention multiple reasons. The first reason is that the criteria that apply for adults are not necessarily appropriate for adolescents. This inability to generalize makes it hard to classify substance disorder for adolescents when they clinically meet criteria but have very low rates of addiction. As a result, the DSM-IV criteria for alcohol abuse and dependence exclude a majority of youths whose drinking behavior shows potentially harmful consequences because these individuals fail to meet high tolerance levels and pathological criteria, such as the presence of blackouts, cravings, and lack of control over their drinking behavior (Hays & Ellickson, 1996). One interesting aspect deals with frequency vs. quantity. Adolescents usually drink less often than adults, but when they consume alcohol it is in far greater quantities. Therefore, frequency of use and amount of consumption increased with age and are highly variable across age groups (Harford & Spiegler, 1983).

According to the American Psychological Association's (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (2000) typically categorizes problematic substance use as either abuse or dependence. With regards to alcohol, there are two diagnoses: alcohol abuse and alcohol dependence, otherwise known as alcoholism. Each of these are postulated as having a genetic link and are often co-morbid with many other Axis I disorders, including mood

disorders, anxiety disorders, and personality disorders. Substance abuse is defined as a pattern of substance use leading to significant functioning impairment.

According to the DSM-IV, one of the following must be present within a period of twelve months: (1) recurrent use that results in a failure to fulfill major obligations at work, home, or in a school setting; (2) recurrent use in situations that can prove physically hazardous, such as driving while intoxicated; (3) legal problems resulting from recurrent use; or (4) continued use despite significant interpersonal problems and social impairments caused by the continuous use of the substance. These symptoms must be present without meeting the criteria for substance dependence. According to the DSM-IV, three or more of the following must occur at any time in the same 12-month period: (1) tolerance, as defined by a need for markedly increased amounts of the substance to achieve intoxication and diminished effect with continued use of the same amount of the substance; (2) withdrawal, as manifested by either the characteristic withdrawal syndrome for the substance or the same or a closely related substance being taken to relieve or avoid withdrawal symptoms; (3) the substance often taken in larger amounts over a longer period than was intended; (4) persistent desire or unsuccessful efforts to cut down or control substance use; (5) a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects; (6) important social, occupational, or recreational activities are given up or reduced because of the substance; and (7) the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (APA, 2000).

The Prevalence of Alcohol Misuse in the United States of America

When looking at prevalence rates of alcohol misuse and alcoholism in the United States, researchers typically consider the number of people who drink, the amount of drinks consumed, the frequency of drinking behavior, and the amount that is considered a standard drink portion. The NIAAA (n.d.b) reported that during 2012, the percentage of men who had at least one drink within the year was 71.8 and the percentage of women who had at least one drink within the year was 59.6. A majority of men who drink were shown to binge drink (5+ drinks or men/ 4+ drinks for women in a day) and women tended to be twice as likely to be lifetime abstainers from alcohol as men. When looking at the amount of drinks consumed, a large majority of women who drank had only one drink. On the other hand, men typically had three or more drinks on average at any given time (NIAAA, n.d.b).

The NIAAA (n.d.b) stated that a majority of women reported an alcoholic consumption frequency of around 3-6 times in the past year, where men reported anywhere from once per week to 3-4 times per week. In men, hazardous drinking behavior was seen at a later age (25-34), where women showed problem drinking behavior earlier (16-24 years of age) (Fuller et al., 2007). In addition, men and women in diverse racial groups showed less problem drinking behavior than Caucasian individuals (Fuller et al., 2007). Another interesting facet of alcoholic behavior is the amount of liquor that constitutes as a 'standard drink'. Most individuals are surprised to learn what constitutes a 'standard drink.' This can result in an inability on the part of the individual to know exactly how many 'standard drinks' they have consumed (NIAAA, n.d.c).

Prevalence of Children and Adolescents Affected by Alcohol Misuse in the United States of America

When looking at alcohol misuse and alcoholism in parents, Laybourn, Brown, and Hill (1996) describe four patterns of parental drinking. These drinking patterns include constant, opportunistic, nightly, binge, and routine heavy drinking. Constant drinking is described as daily drinking that can occur at any time during the day. Nightly drinking is also daily but limited to evenings only. Binge drinking is defined by bouts of drinking that last days or even weeks, where periods of sobriety intervene and get shorter as the disorder progresses. Lastly, routine heavy drinking revolves around a schedule, where there is a settled routine of heavy drinking either only on the weekend or only on the weekdays. Laybourn et al. suggested that binge drinking behavior is the most damaging and problematic for families because those who indulge in it take the least account for their children's routines. This differs from the nightly or routine drinkers who work to prevent their drinking from interfering with their availability to their children (Laybourn et al., 1996).

Regardless of pattern of drinking style, families with parental alcohol misuse are distinguished as having poorer family functioning, a less cohesive perception of their environment, higher levels of unresolved conflict, lower levels of physical as well as verbal positive feeling expressions, and lower warmth and caring (Burke, Schmied, & Montrose, 2006). Research suggests that parenting styles that revolve around misuse of alcohol are excessively authoritarian or permissive and the parent(s) hold unrealistic expectations of their child/children (Burke et al., 2006). Parental alcohol misuse can influence how much supervision the child receives as well. Children whose parents do abuse alcohol usually tend to engage in significantly more deviant behavior and surround themselves with more deviant peer groups (Burke et al.,

2006). The parent(s) similarly become increasingly focused on their drinking behavior. This focus on alcohol can result in less care and nurturance for the child. As a result of the problematic drinking behavior, the parent may begin to lack the consistency needed to be an effective parent and over time may become less able to carry out parental responsibilities (Burke et al., 2006).

The topic of parenting practices related to adolescent drinking has been well documented in past research. One practice in particular is the enforcement of rules by the parent(s). According to Spijkerman, van den Eijnden, and Huiberts (2008), strict rules by parents may help to prevent drinking among the youth population. In addition, communication surrounding alcohol use may influence adolescent drinking behavior. The authors found a negative association between ‘qualitative good communication’ about alcohol use and adolescent drinking behavior, suggesting that this type of communication can be effective to not only reduce adolescent drinking but also prevent it. In this study, ‘qualitative good communication’ is defined as communication where the child feels well understood by the parent(s) and comfortable talking about the topic (Spijkerman et al., 2008). On the contrary, Van Zundert, Van Der Vorst, Vermulst, and Engels (2006) found that the frequency of communication about the use of alcohol is positively related to the adolescent’s alcohol use, indicating that adolescents tend to increase alcohol consumption in cases of frequent child-parent conversations surrounding alcohol use (Van Zundert et al., 2006).

Additionally, it is important to view parental allowance of alcohol in the home. According to Friese, Grube, and Moore (2012), parents typically store alcohol in locations that are not secure and that allow adolescents to access the alcohol quite easily. Access to alcohol in the household and obtaining alcohol from parents has been linked to increased alcohol

consumption and intention to drink alcohol as well as to greater alcohol-related problems (Van den Eijden, Mheen, Vet, & Vermulst, 2011). Most reasons given for not locking up alcohol involved the parents stating that their children should know not to drink their alcohol, that their adolescent is not a 'problem child', and that there is mutual trust in the parent-child relationship. In this study, there was disagreement between some parents about whether alcohol storage precautions should be taken. However, the majority of parents expressed little concern about their children accessing the alcohol they keep available in the home until the trust between parent and adolescent was broken (Van den Eijden et al., 2011).

Permissive parenting practices in combination with genetics can result in an increase in substance use by the adolescent. Schmid and Gabhainn (2004), through the Health Behavior in School-Aged Children study of the World Health Organization, showed that among those youths who started drinking alcohol before the age of 16 (80% of youth), boys reported that they started drinking for the first time at an average age of 12.4 years and girls reported that they started drinking at an average age of 12 (Schmid & Gabhainn, 2004). Studies on the contributions of genetics found that the largest factors in commencement of alcohol use are indeed environmental, but factors related to genetics become more important with age and as more regular drinking patterns start to develop (Hopfer, Crowley & Hewitt, 2003). Hopfer et al. (2003) looked at twins and adopted individuals. The results showed evidence of genetic influence on substance use, the co-occurrence of tobacco and alcohol, and the co-occurrence of substance-using behaviors (Hopfer et al., 2003).

So why does all of this matter? Research shows that by the time they are seniors, 90% of high school students in the United States have tried some form of alcohol, 50% are current users, and 28% have recently engaged in binge drinking in some form or another (Johnston, Bachman,

& O'Malley, 1993). More recent alcohol use information indicates that 51.8% of Americans aged 12 and older currently drink alcohol, nearly 25% of Americans participated recently in binge drinking behavior, and 6.2% of the population aged 12 and older reported heavy drinking (5+ drinks), which is down from 6.7% in 2010 (Substance Abuse and Mental Health Services Administration [SAMHSA], 2011). Among adults as well as adolescents, alcohol has become commonplace and accepted, and societal norms have prevented much action being taken with alcohol initiation in youth. However, results suggest that curbing alcohol misuse may be a more attainable goal and could be a more efficient route to preventing the harms associated with drinking, especially the harms resulting from parental alcohol misuse (Johnston et al., 1993).

Research indicates that COAs and AOAs are at an increased risk for multiple other negative outcomes in addition to personal substance abuse. Mood disorders such as depression and anxiety, academic underachievement, relational difficulties, and overall low self-esteem are some examples of negative outcomes (Kearns-Bodkin & Leonard, 2008). Other studies have found a significant proportion of youth with external loci of control, conduct disorder, learning disabilities, repeated delinquencies, and even suicidal tendencies (El-Guebaly & Offord, 1977; Russell, Henderson, & Blume, 1984). In 1984 it was estimated that there were more than 30 million individuals living in the United States who had grown up in a family where at least one parent could be classified as an alcoholic (Russell et al., 1984). This number has since decreased, with there being an estimated 26.8 million children that have been exposed to some varying degree of alcohol misuse in the immediate or extended family (Brown & Abbott, 2005).

In a more recent study by Griffin, Amodeo, Fassler, Ellis, and Clay (2005), seven million children live with a parent who has a current diagnosis of alcohol abuse or dependence. With the addition of the requirements that the adult in the household is a parent, that the individual is a

current rather than past substance misuser, and that the misuser must have a diagnosis of substance abuse or dependence, the more recent study seems to portray current parental alcohol misuse numbers in the United States more accurately (Griffin et al., 2005). By gender, evidence suggests that adult male COAs are at greater risk for developing alcohol disorders, manifesting sociopathic tendencies, and having legal issues which end them up in jail or prison (Kearns-Bodkin & Leonard, 2008; McKenna & Pickens, 1981). Additionally, research has shown that female adult COAs report overall higher levels of self-deprecation, which leads to increased risks of depression and lower self-esteem. Therefore, males tend to exhibit externalizing behaviors such as antisocial tendencies and alcohol misuse in their own lives and women tend to exhibit internalizing behaviors (McKenna & Pickens, 1981; Serec et al., 2012). Interestingly, McKenna and Pickens (1981) found that 27.7% of the fathers and 5.2% of the mothers of male alcoholic probands were indeed alcoholics, where 40.6% of the fathers and 8% of the mothers of female alcoholic probands were alcoholic. Women alcoholics were shown to be 3.3 times more likely to have an alcoholic father and 2.4 times more likely to have an alcoholic mother than the general population. Men were 2.3 times more likely to have an alcoholic father and 1.6 times more likely to have an alcoholic mother than the general population (McKenna & Pickens, 1981).

Werner (1986) added to these gender differences, stating that both the gender of the child and the gender of the alcoholic parent are important. There are marked differences in outcome seen across genders, with boys and the offspring of alcoholic mothers shown to be more vulnerable than girls and the offspring of alcoholic fathers (Werner, 1986). Kearns-Bodkin and Leonard (2008) reinforced the importance of gender by stating that both sons and daughters look toward the opposite gender in their parental relationships. When the opposite gender parent is

misusing alcohol, the child will usually lack an adequate model for learning how to engage in interactions with the opposite gender (Kearns-Bodkin & Leonard, 2008).

Another interesting aspect of parental alcoholism that McKenna and Pickens (1981) studied was the impact of having two alcoholic parents rather than just one. They found that children of two alcoholics were more likely to have behavioral problems, proceed quicker from first intoxication episode to full alcoholism treatment, and to start alcohol use at a younger age. Factors that did not vary based on number of alcohol misusing parents were measures of pretreatment drinking, severity of drinking at the time of measurement, and alcohol treatment outcome (McKenna & Pickens, 1981).

Factors Influencing the Effect of Parental Alcohol Misuse on Children and Adolescents

Introduction

A large amount of research has examined the influence of parental substance misuse and alcoholism on children and adolescents. This section will touch on how alcohol misuse and alcoholism affects and is affected by parent relationships, parent-child relationships, relationships between siblings, and overall family functioning. Each one of these areas is key to understanding not only why parental alcoholism has such a large effect on children, but also potential areas of strength that can help diminish the effects of having a parent(s) who misuses alcohol. This strength-based approach was discussed by El-Guebaly and Offord (1977) in their critical review of the research on offspring of alcoholic parents. They stated that evaluating potential handicaps in COAs may not be as important as evaluating the persistence and overall strengths that make up this population.

When looking at the relationship directly, there does not seem to be a causal link between parental alcohol misuse and unpleasant outcomes in children (Sher, 1991). In a large study by

Ohannessian et al. (2004), COAs did not differ from those individuals who had non-alcohol misusing parents on a number of measures, including psychological symptomatology (depression, substance use, and conduct disorder) and the coinciding clinical diagnoses for each. However, there are multiple important factors that contribute to the influence of parental alcohol misuse on children and adolescents. They include the overall severity of the alcohol use, the duration of the parent's alcohol misuse, the parent's drinking patterns, and the number of alcohol misusing family members. Most important however are the additional factors known to influence the impact of parental alcohol abuse and dependence on offspring. These include demographics, marital conflict, parent-child relationships, sibling relationships, and first degree family functioning as well as more remote family functioning.

Demographic Information

Gender.

Revisiting gender and its relation to the effects of parental alcohol misuse on children and adolescents, we can see based on extensive research that there are marked differences between male COAs and female COAs. As described by McKenna and Pickens (1981) and Serec et al. (2012), boys with an alcoholic parent/parents are at an increased risk for externalizing problems and 'acting-out' behavior, while girls of an alcoholic parent/parents are at an increased risk for internalizing problems (McKenna & Pickens, 1981; Serec et al., 2012). These problem behaviors can carry over into other facets of the child's life as well. Hussong, Zucker, Wong, Fitzgerald, and Puttler (2005) looked at how gender affects overall social competence, indicating that deficits in this area are mainly only seen in girls. Gender socialization theory suggests that society places a greater expectation on girls to develop their social skills, causing society to judge deficits in girls more critically and harshly. For male COAs, both the normal physical style

of peer interaction and different societal expectations for friendship interactions can result in fewer problems in developing the expected social competence level. For female COAs, these societal expectations can lead to greater internalization by girls of their incompetence and cause increases in depression and lower self-esteem (Hussong et al., 2005; McKenna & Pickens, 1981; Serec et al., 2012).

In addition, parental gender is a useful area to analyze. Distinct differences are seen between whether being a male or female alcohol misusing parent affects COA's functioning more significantly. Even after taking these parental gender differences into account, most studies do not analyze parental gender's impact on COAs. Either they look at gender solely from a paternal standpoint or they do not distinguish the gender of the parent. Children of alcoholic fathers show more adjustment problems when compared to the general population (Haugland, 2003) and family experiences are shown to be less adverse when the mothers have the drinking problem rather than the fathers (Velleman & Orford, 1999). Grekin, Brennan, and Hammen (2005) added to these findings by reporting that paternal rather than maternal alcohol misuse predicted delinquency in children. However, this difference in adjustment has only been linked to older children around the ages of 7-11. A possible reason for why age is a distinguishing factor is that younger children may not have had the opportunity to develop the behavior problems yet (Velleman & Orford, 1999). In addition, many measures that are used to test effects of parental alcoholism, including the Child Behavior Checklist (CBCL), may not directly tap into younger children's problems (Velleman & Orford, 1999). The alternative explanation is that the effects of parental alcohol misuse on younger children are not present enough to actually show up on the measures, indicating that younger children are less directly exposed to the negative effects of paternal alcohol misuse.

Velleman and Orford (1999) described the importance of gender of the problem-drinking parent in greater detail. They reported that this is a very important topic for a number of reasons. First, a hypothesis made by many researchers is that children of mothers who qualify for an alcohol abuse or dependence diagnosis would be significantly affected more than children of fathers who qualify for an alcohol abuse or dependence diagnosis. The reason behind this claim is that the mother is more imperative than the father in maintaining family unity (Velleman & Orford, 1999). Ohannessian (2012) hypothesized that adolescent-mother communication is more closely linked with adolescent adjustment than adolescent-father communication, mainly because adolescents have been observed to communicate with their mother more often involving personal matters (Ohannessian, 2012). A second reason gender of the parent is important relates to mimic behavior. The authors suggest that children will most likely imitate the same-sex parent's behavior and will be influenced more by the patterns of the opposite sex parent (Velleman & Orford, 1999).

However, the effect of paternal alcohol abuse on children is strong. When a negative childhood experiences (NCE) scale was administered to COAs, the results proved interesting (Velleman & Orford, 1999). If the mother alone had the drinking problem, interviewees had significantly higher scores on the NCE scale than those COAs without an alcoholic mother. If the father alone had a drinking problem, results showed that COAs still scored higher than average on the NCE scale, but also recalled much less positive interactions within the family, significantly less than the mother-only group. This study shows one example of a contradictory finding to the hypothesis that mothers are more important than fathers in maintaining the family unity (Velleman & Orford, 1999).

El-Sheikh and Flanagan (2001) found that variables associated with parental problem drinking may further the risks for child adjustment issues. This is especially true when viewing depression symptomology in mothers of COAs, which shows a higher risk than paternal depression symptomology (El-Sheikh & Flanagan, 2001). This finding, in conjunction with other research, shows that children most likely imitate the same-sex parent's behavior. This is a contributing factor for why female COAs develop internalizing behavior, higher rates of depression, and self-deprecation (El-Sheikh & Flanagan, 2001; Ohannessian, 2012; Serec et al., 2012; Velleman & Orford, 1999).

Length of parental alcohol misuse or alcoholism and child exposure.

In almost every study included in this literature review, there is a positive correlation between length of child exposure to parental alcohol misuse and the impact on the child. Velleman and Orford (1999) hinted that younger children do not show marked effects of parental alcohol abuse. However, older children who are mainly school age do develop academic, behavioral, cognitive, and emotional issues. Each one of these will be discussed later in the review in greater detail. All in all, research has shown that cognitive deficits as a result of alcohol misuse by a parent do not show up in children in the earliest years. However, the longer the child is exposed to the parental alcohol misuse within their family, the more likely they are to experience adverse outcomes surrounding cognition and academia (Burke et al., 2006). However, behavioral and emotional problems can arise very early, as early as the preschool years (Werner, 1986)

Family history with alcohol and resilience of those reared in alcoholic families.

When discussing familial influences and alcohol, it is clear from the literature reviewed so far that parental alcohol misuse impacts the number of deficits seen in COAs. However, not

all children develop a form of psychopathology or alcohol-use disorder. Clinical research tends to focus on the individuals with the deficits, but there are many COAs who grow up in families with an alcoholic parent (s) and do not develop deficits (Sher, 1991; Werner, 1986).

Obuchowska (1974) reported that COAs that have or had an alcoholic father in their life do not develop psychosocial dysfunction if they have or had high levels of maternal support when dealing with the alcohol-misusing father. In the absence of positive mother contact, these COAs were comparable to COAs with two alcoholic parents, showing increased aggression levels and passivity as well as negative attitudes towards social values (Obuchowska, 1974). In specific regard to depression, Kelley, Pearson, Trinh, Klostermann, and Krakowski (2011) added that more positive relationships between children and parents may specifically reduce the strength of the relationship between depressive symptoms and parental alcoholism. However, more research is needed on how the quality of parent-child relationships can mediate the impact of parental alcohol misuse (Kelley et al., 2011).

Interestingly, COAs whose parents have recovered from alcohol misuse viewed their families very similarly to that of control subjects. They viewed their families as being more trusting, cohesive, and affectionate (Werner, 1986). There are a number of behavioral characteristics that distinguished those COAs who did develop serious coping issues and those that did not develop serious coping issues. One noticeable difference is in characteristics like positive attention from primary caretakers (Kelley et al., 2011; Werner, 1986). This positive attention from primary caretakers in conjunction with the absence of any prolonged separation from the caretaker can help steer adolescents away from any serious coping problems by the age of 18 (Werner, 1986). Intelligence, reading and writing skills are distinguishable characteristics when viewing individuals who had positive attention from primary caretakers and who did not.

In addition, personal factors show distinguishable features between the two subgroups, with those COAs with more positive attention from their caretakers showing a more responsible and caring attitude, a positive self-concept, higher belief in self-help, and a more internal locus of control (Werner, 1986). These features have a significant impact on childrens' resiliency towards overcoming deficits related to parental alcohol misuse. These findings suggest that parents who misuse alcohol largely affect their child's level of resilience to deficits based on the way they are raised and the lessons they are taught, even if the genetic component is already in place for these deficits (Werner, 1986).

The ability for parental alcohol misusers to affect those around them comes from behavioral modeling. This theory states that the habits of the parent(s) might 'rub off' on the child since they are in the presence of one another for lengthy amounts of time. Behavioral modeling is one aspect of social learning theory developed by Albert Bandura (Bandura, 1977). It presented the idea that behavior can be shaped into new patterns through reward and punishment. There is a definite link between parental drinking patterns and the way children and adolescents view alcohol, not only during their present age but when they enter adulthood and throughout their lifespan (Sher, 1991). These patterns vary by gender mainly, with the majority of fathers drinking away from home and the majority of mothers drinking at home. Each of these behaviors are viewed differently by the child (Wilson & Orford, 1978). In most families where drinking occurred outside the household, children got used to their parents coming home 'drunk' in an aggressive or depressed state, therefore causing fear in the child in anticipation of their parent returning home. On the other hand, when drinking occurred in the home, the viewpoint shifted. Instead of being fearful the child seemed to be disapproving and concerned, especially when the parent rarely got very 'drunk.' These patterns of drinking by the parent show marked

effects on outcome for the COAs (Wilson & Orford, 1978). However, regardless of the drinking location, parental drinking both at home and out of the home predicts increased adolescent drinking behavior (Van Der Vorst, Engels, & Burk, 2008).

Sher (1991) even goes as far as reporting that children can take positives away from parental alcohol misuse. Sher reported that COAs can adopt an expectation that alcohol will enhance motor and cognitive abilities. This is the result of either hearing their parent describe the effects of alcohol for them positively or personally viewing how it 'curbs' the parent's withdrawal symptoms (Sher, 1991). Another suggestion is that the COAs model their family's alcohol use because they view it as a way of coping directly with the stresses of life as modeled by their family (Sher, 1991). Negative emotions such as anger, anxiety, and isolation that are felt due in an alcoholic misusing family predict the use of drinking behavior to cope, which in turn leads to alcohol-related problems (Topper, Castellanos-Ryan, Mackie, & Conrod, 2011). The unclear rules presented to the child by the parent and the ambiguity surrounding alcohol within the family atmosphere can result in COAs developing ambivalent attitudes toward drinking when they reach adulthood. This is challenging when it comes to possible acceptance of their own problematic drinking behavior, the allowance of alcohol in their home, and different views than their spouses on alcohol acceptance (Habib et al., 2010; Sher, 1991; Velleman & Orford, 1999).

However, Corral, Rodriguez, and Cadaveira (1996) reported that the effect of the family on COA deficits is not exactly related to the parent being studied, indicating that most studies approach analysis of the impact of parental alcohol misuse the wrong way. They reported that negative outcomes in adolescents are mainly the result of family density instead, especially with ADHD and delinquency. They describe high family density as a father who misuses alcohol and two or more additional relatives who also do so. According to the authors, these additional

remote family factors could be why most studies using the conventional criteria do not obtain the heterogeneous results the authors would expect. Conventional criteria can be defined as the effect of having only one alcoholic parent, with the effects on COAs being based on the father's alcohol misuse alone (Corral et al., 1996).

Parental Conflicts

Being raised in a family with alcohol misuse can lead to ambivalent thoughts surrounding alcohol and can be a link that is perpetuating the cycle from one generation to the next (Habib et al., 2010; Sher, 1991; Velleman & Orford, 1999). In order to break this cycle of ambiguity, both parents have to be on the same page when it comes to the limitation of alcohol, especially in the presence of their child. However, this can be hard when alcohol misuse is present in a relationship. The communication between two individuals in a relationship when alcohol misuse is present is very poor (Habib et al., 2010; Sher, 1991; Velleman & Orford, 1999). Poor communication between parents manifests in higher interruption tendencies, lack of listening skills, and deficiencies in getting opinions across effectively (Kelly, Halford, & Young, 2002). Having both parents be alcohol misusers results in even more significant deficits than having only one parent as an alcohol misuser (Hussong et al., 2005). High rates of separation are likewise reported in families involving alcohol misuse (Kammeir, 1971; Torvik, Roysamb, Gustavson, Idstad, & Tambs, 2013). Unfortunately, children can be involved in many of the fights, usually resulting in the child having to intervene and become a mediator for the argument between the two parents. By taking sides on occasion in these quarrels, children might upset the parents, causing even more conflict within the family (Kammeir, 1971).

Parent/Child Relations

Mediation of parental arguments by the COA is one of many reasons why parental alcoholic misuse can lead to problems between parent and child. According to Velleman and Orford (1999), the Children of Alcoholics Life-Events Schedule (COALES) developed by Roosa, Sandler, Beals, and Short (1988) is able to discriminate significantly between children with and without alcoholic parents. The COALES items indicated that children's main concerns involved 'parental fighting and quarreling,' 'drinking,' and 'drunkenness.' 'Bad' stressful life events, as indicated by the COALES, are 'one parent saying bad things about the other' and parental arguments in front of the child (Cork, 1969; Roosa et al., 1988).

Fighting along with lack of participating in family activities and consistently tense family atmospheres make it hard for alcoholic families to communicate effectively (Velleman & Orford, 1999). Cork (1969) mentioned that children whose parents had alcohol misuse complained of less fun and laughter in the family environment and compared their own families unfavorably with those of their friends. Wilson and Orford (1978) added that the anticipation of the alcohol misusing parent's negative moods causes a lot of tension in the family. These moods involve aggressiveness, irritability, or depression. This dread of the alcohol misusing parent's mood can lead to close and mutually supportive bonds between some children and the non-problem drinking parents. However, there are other cases where the child can express ambivalence toward the alcoholic misusing parent and even have negative views about that parent (Wilson & Orford, 1978). There are mixed feelings about distinguishing the parent when they are sober vs. when they are drunk. Some children make a clear distinction between the two different states (intoxicated vs. sober) of the alcohol-misusing parent. Other children show consistent hostility,

distance, and ill feelings toward their alcoholic parent no matter the state of this parent (Wilson & Orford, 1978).

Hussong et al. (2005) reported that this conflict between parent and child can lead to deficits in social competence, focusing specifically on the effects of having an active alcoholic parent in the household. The authors stated that having this active alcoholic parent increases the amount of chaos and stress in the household, resulting in less social interaction between the alcohol misusing parent and the child. An important note is that children of parents who were recovered alcohol misusers (greater than three years of sobriety) showed similar levels of social competency as children with non-alcohol misusing parents (Hussong et al., 2005). This indicates that the risks associated with deficits in social competence are far more short term than risks present in other areas like behavior, academic performance, cognitive performance, and emotion. (Hussong et al., 2005).

Keller, Cummings, and Davies (2005) meld the two notions of parental conflicts and parent-child relations. They discussed how parenting practices are affected by alcohol misuse. Similarly, Mayes and Truman (2002) examined how substance abuse disorders are associated with harsh discipline, unrealistic expectations for children, and authoritarian and permissive parenting styles. Alcohol misuse can play a large part in limiting a parent's ability to properly parent their child. The confusing parenting style of being over controlling yet under involved can lead the child to develop altered expectations for social engagement and responsiveness (Mayes & Truman, 2002). Moreover, alcohol along with other substances can alter the individual's states of consciousness, memory, affect regulation, and impulse control (Mayes & Truman, 2002). It can take over their life and make using the substance the primary necessity, even if it means the exclusion of other activities and other people in that person's life. The main goal for that person

then becomes using the substance to get high or intoxicated. This craving and focus of time on obtaining the substance along with the physiological effects of the substance influence the adult's capacity to respond to their child properly (Mayes & Truman, 2002).

Unfortunately, children may not be aware of low levels of alcohol misuse symptoms in their parent. That is, until the symptoms begin to damage parenting abilities and become a source of conflict in the interpersonal relationship, children may not even recognize that there is a problem (Keller et al., 2005). Therefore, it seems as though the marital relationship may have greater sensitivity to alcohol misuse symptoms than the relationship between parent and child. These symptoms and the marital conflict resulting from the alcohol misuse can create ongoing parenting difficulties. Parenting ability therefore might in some ways be mediated by marital functioning (Keller et al., 2005).

Sibling and Peer Relationships

A topic that is not often looked at in the literature is the effect of sibling relationships when analyzing parental alcohol misuse. Most studies analyze this relationship in terms of how older siblings affect the drinking patterns of their younger siblings (Bahr, Hoffman, & Yang, 2005; Jacob & Johnson, 1997). Parent-child relationships have received the most attention in the study of alcohol familial influence. Family-level effects such as overall warmth, cohesion, and communication levels have also been discussed (Jacob & Johnson, 1997). Brook, Brook, Gordon, Whiteman, and Cohen (1990) discuss three potential pathways by which siblings' alcohol use patterns could be related.

Brook et al. (1990) stated that the first related pathway deals with modeling, where the younger child models the older child's behavior. This modeling leads to very similar attitudes, beliefs, values, and behaviors that could lead to similarities in alcohol use patterns (Bahr et al.,

2005; Brook et al., 1990). The second pathway deals with genetics. As siblings share 50% of their genetic material, they may have inherited the same genes related to alcohol use. As a result, siblings may experience similar alcohol use patterns. Lastly, a positive and healthy relationship with an older sibling may result in less conflict and distress for a younger sibling. This influence can result in better choices by the younger sibling and can lead the sibling away from alcohol and other drug use (Brook et al., 1990).

It has been hypothesized that an older sibling's choice of friends and acquaintances significantly influences the social environment of the younger child (Akers & Sellers, 2004; Petraitis, Flay, & Miller, 1995; Rowe & Gulley, 1992). This, in conjunction with the acquaintances of the younger sibling contributes greatly to adolescent alcohol use. However, it seems that the combination of family and peer relationships is most important when looking at adolescent alcohol use (Akers & Sellers, 2004; Petraitis et al., 1995; Rowe & Gulley, 1992).

Social learning theory helps to explain why these environmental factors have such an impact on alcohol use (Akers & Sellers, 2004). This theory asserts that experimental substance use originates in the attitudes surrounding the substance and the behaviors of the people surrounding the adolescent (Petraitis et al., 1995). These attitudes and behaviors originate with the adolescent's observation and direct imitation of substance-related behaviors of either role models or peers. According to Maxwell (2002), risky alcohol behavior initiation is 12 % greater for respondents whose friends also participated in risky alcohol behavior. This peer influence is seen across other substances and behaviors as well, including cigarettes, marijuana, chewing tobacco, and sexual activity (Maxwell, 2002). Unfortunately, this adoption of substance-related behaviors by the individual is then reinforced socially and the adolescent's behavior is subsequently maintained (Petraitis et al., 1995).

This cycle of reinforcement results in the adolescent expecting both positive physiological and positive social consequences from future experimental substance use (Petraitis et al., 1995). This is mainly due to stressed importance on peer acceptance, strong avoidance of dislike from peers, and proper attendance to the social norm. However, it is important to note that adolescents may be incorrect in their assessment of the social norm (Perkins, 2007). For example, Perkins (2007) found that college students greatly overestimated the frequency of alcohol consumption amongst peers. Perkins reported that 4% of college students underestimated the frequency of alcohol consumption amongst peers, 10% were accurate in their estimation, and 86% of college students overestimated the norm. This is true with perceived quantities as well, where 10% underestimated consumption, 14% were accurate, and 76% overestimated peer consumption levels (Perkins, 2007). This pressure to fit in with the perceived norm can continue into later periods of life. However, physiological reactions to the substance itself play a large role in determining future substance use (Petraitis et al., 1995). Ultimately, the adolescent who expects more benefits than risks from the substance will be at risk for experimental substance use and substance-related problems presently and in the future (Petraitis et al., 1995).

Adolescents are likely to gain attitudes that support drug use if they associate frequently with others who use drugs and have favorable attitudes toward drugs (Bahr et al., 2005). The relationship the adolescent has with the substance gains resilience the longer the adolescent is surrounded by individuals who hold these beliefs about the substance (Bahr et al., 2005). Internalization of pro-drug attitudes and behaviors occurs more often if the interactions are intense rather than casual. Intense interactions involve exposure to close family and friend problematic drinking behavior. Casual interactions are with acquaintances and are less personal.

Adolescents adopt the behaviors and attitudes of friends and family members much more than those of other acquaintances (Bahr et al., 2005).

Another area of interest when discussing substance use is social control theory (Hirschi, 1969). The premise of social control theory is that deviance is considered normal behavior and conformity is the abnormal behavior that must be explained. This theory makes implicit the notion that all adolescents have impulses towards deviance and would ultimately act on these impulses if it was not for constraints and controls put on them by their families and other societal institutions (Hirschi, 1969). Social control theorists believe that when adolescents have a solid relationship with their parents, they try to act in as non-deviant a manner as possible (Wright & Cullen, 2001). Applying this theory to adolescent substance use helps explain why parental drug use has such a profound effect on children; children are more likely to refrain from drug use if their parents are opposed to it. However, when adolescents and their parents do not have a close relationship, the adolescents are less likely to feel constrained by their parents' wishes and are more likely to experiment with drugs (Bahr et al., 2005). Therefore, social learning theory's notion of modeling discussed above and social control theory's notion of deviance as normal are both important concepts to consider when analyzing the influence of siblings, peers, and family on adolescent substance use.

Summary

It is evident that many factors influence the effect of parental alcohol misuse on children and adolescents. Interestingly there are marked differences depending on whether or not the child is male and female, with males typically showing externalizing behaviors and females exhibiting internalizing behaviors (McKenna & Pickens, 1981; Serec et al., 2012). Furthermore, differences exist in the form of parental gender, showing that COAs tend to imitate the same sex parent and

are influenced most by that parent's behavioral patterns (El-Sheikh & Flanagan, 2001; Ohannessian, 2012; Serec et al., 2012; Velleman & Orford, 1999). The factors listed above that influence the effect of parental alcohol misuse on children could ultimately carry over into social incompetencies (Hussong et al., 2005).

Length of parental alcohol misuse and child exposure to alcohol misuse is important as well. Additionally, it is essential to consider the alcohol use of each parent, as having one parent who is not an alcohol misuser can greatly help the child in coping with the other parent's alcohol related behavior (Kelley et al., 2011; Obuchowska, 1974). Interestingly, COAs whose parents have recovered from alcohol misuse viewed their families similarly to control subjects, being just as trusting, affectionate, and caring (Werner, 1986).

Positive attention from primary caretakers impacts adolescent substance use as well (Kelley et al., 2011). This attention, in conjunction with the absence of any extended separation from the primary caretaker, can help keep adolescents from developing serious coping problems (e.g. withdrawal and emotional disconnect) at an early age (Werner, 1986). Additionally, personal factors, such as a responsible and caring attitude and a positive self-concept, play a role in distinguishing between those COAs who did develop serious coping issues and those that did not develop serious coping issues (Werner, 1986).

Additionally, parental conflict is significant to consider when discussing the effect of parental alcohol misuse on children and adolescents. Being raised in a family with alcohol misuse can lead to ambiguous thoughts surrounding alcohol (Habib et al., 2010; Sher, 1991; Velleman & Orford, 1999). Such thoughts can be a link that preserves the cycle from one generation to the next (Habib et al., 2010; Sher, 1991; Velleman & Orford, 1999). In order to break this cycle of ambiguity, both parents must be on the same page when it comes to alcohol.

However, this can be hard when alcohol misuse is present in a relationship, usually resulting in disrupted communication (Kelly et al., 2002). This lack of effective communication leads to high rates of separation (Kammeir, 1971; Torvik et al., 2013).

Parent-child relationships are the most studied relationship dynamic when dealing with the topic of parental alcohol misuse. This literature has indicated several patterns. For example, parent-child conflict can result in social competence issues (Hussong et al., 2005). Wilson and Orford (1978) reported that the added stress around the anticipation of the drinking parent's moods causes a lot of tension in the family. Some children make a clear division between the two different states of the alcohol-abusing parent, while others showed hostility toward the abusing parent regardless of whether the parent was drunk or sober (Wilson & Orford, 1978).

Additionally, parenting practices are shown to become fragmented and inconsistent with the addition of alcohol misuse (Keller et al., 2005). Mayes and Truman (2002) discussed how substance abuse disorders are associated with harsh discipline and permissive parenting styles. The substance becomes the parent's obsession, even at the cost of dismissing a positive relationship with their child (Mayes & Truman, 2002).

An additional influencing factor is sibling and peer relationships, which show significant effects on whether or not adolescents adopt positive views surrounding the use of alcohol. The literature indicates a number of influencing factors. For example, modeling the behavior of friends and role models, genetic sharing of alcohol use patterns, and positive relationships with older siblings impacts the future use patterns of adolescents (Bahr et al., 2005; Brook et al., 1990; Maxwell, 2002; Perkins, 2007). These influences can result in better choices by younger siblings and as a result can lead the sibling away from alcohol and other drug use (Bahr et al., 2005; Brook et al., 1990; Jacob & Johnson, 1997). Also of importance is the adolescent's

acquaintances, with the combination of family and peer relationships being most influential on adolescent alcohol use (Akers & Sellers, 2004; Petraitis et al., 1995; Rowe & Gulley, 1992).

Child and Adolescent Deficit Areas

Introduction

When considering COAs, it is essential to keep in mind that although there is a genetic component to alcoholism, environmental issues such as growing up in a home with an alcohol misusing parent may also impact future alcohol use (NIAAA, n.d.a). Therefore, resiliency of the COA becomes a topic of interest. Although 41% of children of alcoholic parents developed serious coping problems by 18 years of age, 59% did not develop problems (Werner, 1986). These resilient children share several characteristics that ultimately led to their success, including the ability to obtain positive attention from other people in their lives, adequate communication skills, a caring attitude towards themselves and others, and desire and motivation to achieve their goals (NIAAA, n.d.a).

However, there are many individuals who do not obtain these skills and find themselves suffering in a number of key developmental ways, including behaviorally, academically, cognitively, and emotionally. The vast amount of research that has examined the impact of parental alcohol misuse on child development reveals that children suffer from a range of maladaptive outcomes (Burke et al., 2006). Future research on these maladaptive outcomes would prove beneficial for increased COA improvement and provide further insight into how parental alcohol use affects children and adolescents.

Behavioral Deficits

Children from homes with alcoholic parents often demonstrate behavioral problems. Findings suggest that these children demonstrate such problems as lying, truancy, stealing,

fighting, and school behavior problems; further, they are often diagnosed as having some form of conduct disorder (West & Prinz, 1987). Hinrichs, DeFife, and Westen (2011) found that COAs show an increase in psychopathic features such as taking advantage of others, showing little empathy, and appearing indifferent to consequences. These individuals tended to be deceitful, angry, impulsive, and highly critical (Hinrichs et al., 2011). Cantwell (1975) reported that families of hyperactive children have an increased prevalence of alcoholic and “sociopathic fathers” and of alcoholic and “hysterical mothers.” It was concluded that parental disturbance, including alcoholism, could be related genetically to their child’s hyperactivity (Cantwell, 1975). Steinhausen, Nestler, and Huth (1982) found that children of alcoholic mothers, compared to control groups, showed higher overall rates of hyperactivity, poorer attention span, higher rates of having temper tantrums, and more management problems. However, these results are clouded because a majority of children were exposed prenatally to maternal alcohol consumption and half had alcoholic fathers (Steinhausen et al., 1982). Therefore, it is hard to discern whether the children’s behavioral outcome was due to having an alcoholic mother, having an alcoholic father, being prenatally exposed to alcohol, or a combination of these factors (Steinhausen et al., 1982). Knop, Teasdale, Schulsinger, and Goodwin (1985) reported that teachers rated children of alcoholic fathers as having significantly higher impulsive-restless behaviors than sons of non-alcoholic fathers. This information was achieved through a teacher questionnaire and it is worth noting that schoolteachers, having usually had several years of continuous exposure to the same children, are a particularly reliable source of information when it comes to reporting the behavior of a child (Knop et al., 1985).

Research on behavioral disorders found in COAs has dated back over sixty years. Whalen (1953) reported that children with alcoholic parents generally showed more disturbed behavior

than those with nonalcoholic parents and were especially more withdrawn and uncontrollable. They were also more frequently in contact with the law and had overall poorer records in school (Hinrichs et al. 2011; Hughes, 1977; Whalen, 1953). In contrast, Nylander (1960) proposed that parental alcoholism resulted in no damage to the child's physical or mental health. However, the author did suggest that when parents show extremely deviant behavior in association with their alcoholism, this behavior can harmfully affect the personality of the child (Nylander, 1960).

An older assessment instrument used to study behavior is the Devereux Child Behavior Rating Scale (DCB; Spivak & Spotts, 1966). This scale is a 97-item questionnaire and is filled out by an individual who has living contact with the child and can reliably describe the child's symptomatic behavior. Fine, Yudin, Holmes, and Heinemann (1976) used this scale to see differences across experimental and control subjects, with the experimental group consisting of COAs and the control group consisting of non-COAs. The authors found that significant differences fell mainly in the areas of neurotic syndromes, including lower emotional responsiveness, increased hypersensitivity to getting upset, anxious and fearful ideation, impulsivity, and social aggressiveness (Fine et al., 1976). They reported that those with parental alcoholism were significantly more disturbed than normal children when compared on the DCB, with COAs being similar to non-COAs on only five of seventeen behavioral variables (Fine et al., 1976). The results indicated that COAs tended to be anxious, fearful individuals who had a hard time controlling their moods and demonstrated much greater excitement. Additionally, they had higher aggressive behavior and showed evidence of defective learning of morals and codes of conduct. They showed higher social isolation and were much more preoccupied with their thoughts than with what was going on around them (Fine et al., 1976).

Examining the behavioral differences of adolescents affected by parental alcohol misuse and adolescents not affected by parental alcohol misuse, Fine et al. (1976) used the Devereux Adolescent Behavior (DAB) Rating Scale (Spivack, Haimes, & Spotts, 1967). Similar to the findings for children, discussed above, the findings for this age group (i.e., adolescents between 13 and 18 years of age) indicated that there is a significantly higher degree of pathological behavior in the COA group than in the non-COA group (Fine et al., 1976). Herjanic, Herjanic, Penick, Tomelleri, and Armbruster (1977) also tested for differences in both psychiatric disorders and behavioral problems in children and adolescents. Contradicting the results of Fine et al. (1976), the authors found no significant differences between COAs and non-COAs between the ages of 6 and 12 years old. However, the adolescent children (i.e. between the ages of 13 and 18) demonstrated significantly more deviant behavior and a greater tendency to have a psychiatric diagnosis, with conduct disorders being the highest occurring (Herjanic et al., 1977).

Hughes (1977) found that 25 adolescent children from alcoholic families reported significantly more run-ins with police than did children of non-alcoholics. Offord, Allen, and Abrams (1978) compared 73 families with delinquent sons to 73 families who had non-delinquent sons. The authors found that the delinquent sons were significantly more likely to have an alcoholic parent. Several studies indicate that alcoholism does not directly and specifically affect COAs; rather, it is how alcohol affects the parent's ability to parent effectively (Burke et al., 2006; Fine et al., 1976; Hussong et al., 2005; Kammeir, 1971; Kelly et al., 2002; Offord et al., 1978; Spijkerman et al., 2008; Velleman & Orford, 1999; Wilson & Orford, 1978). Thus, while parental alcoholism in itself may place children at greater risk for a number of problems, the children's particular experiences within their families can either raise or lower the likelihood of developing problems (Bennett, Wolin, & Reiss, 1988).

Interestingly, it seems impossible to distinguish from family studies alone whether risk to COAs is due to shared genes or exposure to alcoholic environments (Waldron, Martin, & Heath, 2009). To examine these influences, Waldron et al. (2009) conducted a study to determine whether being raised by a parent with a history of alcohol misuse increased risk of behavioral problems in children. This was done by comparing outcomes of biological offspring of an alcoholic parent to biological offspring of the non-alcoholic twin of the alcoholic parent. In contrast to Bennett et al. (1988), Waldron et al. (2009) found little evidence of environmental transmission of risk from parental alcoholism for externalizing behavior, internalizing behavior, and total problem behavior. These results seem to indicate genetic, but not environmental, transmission of risk from parental alcohol misuse (Waldron et al., 2009).

Academic Deficits

In addition, children of an alcohol-misusing parent seem to be more likely to develop academic problems (Hughes, 1977; Mcgrath, Watson, & Chassin, 1997; Sher, 1991; West & Prinz, 1987). These problems include learning difficulties, backwardness in reading, concentration loss, and overall poor school performance. Of six studies examining academic performance, West and Prinz (1987) found that five of them reported significantly lower performance in COAs. Hughes (1977) reported that AOA's had been told by teachers that they were certainly capable of better schoolwork more often than a comparison group of non-COAs. Miller and Jang (1977) added that COAs had a lower graduation rate from high school, with these children being more likely than other students to be suspended and three times more likely to be expelled (Miller & Jang, 1977). The authors reported that males were 17% more likely to drop out of school than girls (Pinto & Kulkarni, 2012). Pihl, Peterson, and Finn (1990) found that COAs had higher rates of school truancy, poorer school performance, and fewer years of school

completion. Knop et al. (1985) compared 233 boys of alcoholic fathers with 107 control boys, reporting that the 'high risk' children had significantly more often repeated a school year, attended a larger number of schools, been referred more often to a school psychologist, and were significantly more likely to be rated by teachers as 'impulsive restless' and less verbally proficient. 'Impulsive restless' was classified as being high in fidgeting behavior and high in restlessness (Knop et al., 1985). Past research indicates that academic performance may be a better measure than IQ when reviewing the effect of growing up in an alcohol-misusing household. (NIAAA, n.d.a).

Another area of interest when discussing academic deficits in COAs is the alcoholic tendency and use of COAs. Jeynes (2002) mentions that only a small percentage of studies examine the effects of drug usage specifically on academic achievement. Of those studies that do mention it, many have centered on the drug consuming patterns of the parents rather than on the drug consuming patterns of the children. (Jeynes, 2002). At a collegiate level, alcohol consumption has shown to have an effect on academic performance (Pullen, 1994). Pullen (1994) reported that there is a relationship between the alcohol consumption patterns of college students and their college grade point average (GPA). The authors found that those college students who consumed more alcohol tended to have lower GPAs (Pullen, 1994). Unfortunately, this study did not address the population of alcohol users in high school. High school students are more immature when it comes to alcohol consumption, less worried about the negative impact alcohol may have on their life, and less concerned about legal ramifications of underage alcohol use (Jeynes, 2002). Fortunately, DeSimone (2010) did look at alcohol use and its relation to academic performance in high school students. He found that the association between drinking and GPA is negatively related, reiterating the Pullen finding that more alcohol consumption

results in lower GPA (DeSimone, 2010). Interestingly, binge-drinking behavior was significantly more detrimental to academic performance than drinking without bingeing. However, it is conceivable that the relationship between alcohol consumption and academic performance can go in reverse in some cases, where academic achievement influences the likelihood of an individual to consume alcohol (DeSimone, 2010; Jeynes, 2002). However, it is important to address that determining the direction of causality is nearly impossible. Academic grades begin long before individuals begin to consume drugs in most cases. Furthermore, causality is difficult to determine due to all the other factors that are active in a person's life outside of substance use (DeSimone, 2010; Jeynes, 2002).

Cognitive Deficits

Cognitive processes have been the main focus by researchers when looking at risk factors associated with alcohol misuse (Johnson & Rolf, 1988). Logically this makes sense considering that cognitive processing is essential to human adaptation at all stages of development. Additionally, these processes can be directly measured with testing instruments across the developmental stages. These cognitive processes may show enough continuity to be measured as predictive traits for child deficits due to parental alcohol misuse (Johnson & Rolf, 1988). When discussing cognitive deficits, it is necessary to separate individuals into two categories: prenatally and postnatally exposed individuals (Weinberg, 1997). These two groups have the potential to overlap, but it is not a requirement.

When discussing IQ, prenatal exposure (PNE) to alcohol is generally cited as the most common non-genetic cause of mental retardation (Weinberg, 1997). Ironically, prenatal exposure is completely preventable and receives little to no attention by researchers. Fetal alcohol syndrome (FAS) symptoms date back as far as the classical and biblical times, but were first

described in the medical literature by Lemoine, Harousseau, Borteyru, and Menuet (1968) (Stratton, Howe, & Battaglia, 1996). Lemoine et al. (1968) reported malformations in a group of 127 children born to alcoholic mothers. These children were reported to have distinct facial features (e.g. lengthened midface, thin upper lip) and other symptoms related to prenatal alcohol exposure (e.g. visual and auditory deficits) (Lemoine et al., 1968). Then, five years later, researchers in Washington state published findings from a study similar to Lemoine et al.'s, formally naming the condition Fetal Alcohol Syndrome (Jones & Smith, 1973).

Other terms have been used such as “fetal alcohol effects” and “alcohol-related birth defects” to describe those offspring with some but not all of the features of Fetal Alcohol Syndrome (Weinberg, 1997). To clarify, for a strict diagnosis of FAS, there needs to be evidence of multiple impairments. These include growth retardation, central nervous system involvement (developmental delays and behavioral or intellectual impairments), and characteristic traits that include short palpebral fissures, a thin upper lip, and a lengthened philtrum and midface (Roussotte, Soderberg, & Sowell, 2010; Weinberg, 1997). Other physical anomalies have been described but are not required for diagnosis, including cardiac anomalies, skeletal malformations, and visual and auditory deficits (Roussotte et al., 2010; Weinberg, 1997).

Stratton et al. (1996) describe similar distinct features of a newborn with fetal alcohol syndrome as well as how to go about diagnosing an individual based on their symptoms. They describe various constellations of physical abnormalities, most obvious being the distinct features of the face and the reduced size of the newborn (Roussotte et al., 2010; Stratton et al., 1996; Weinberg, 1997). However, Stratton et al. clarify that the features of fetal alcohol syndrome show great variability when looking across individual cases. Individual symptoms

have the potential to fluctuate over time, with the facial features difficult to recognize at birth and the potential to be much less obvious after puberty (Aase, 1994).

However, Stratton et al. (1996) mentioned that impairments that lead to the most concern for the infant as an adult are behavioral and cognitive impairments, which will both be discussed later in more detail (Stratton et al., 1996). This is a growing concern due to the rates of FAS births per year in the United States (US). FAS can be very costly not only for the individual but for the family of the individual and society as a whole. Rates of FAS range from 0.5 to 3 cases per 1,000 births, approximately 2 to 12 thousand births per year in the US (Stratton et al., 1996).

Going back to mental retardation diagnoses, it must be understood that retardation is not a gauge of FAS (Stratton et al., 1996). Children with a history of prenatal alcohol exposure without a mental retardation diagnosis can still display cognitive performance impairments, attention deficits, motor dysfunction, and general hyperactivity (Streissguth, 1986). According to the Institute of Medicine, studies of children with FAS have reported IQ scores that fall generally in the mild mentally retarded range (60s). "Partial FAS" IQ falls in the 70 to 85 range. However, the judgment deficits and behavioral problems shown by the COA are usually more problematic and developmentally impairing than their IQ would suggest (Stratton et al., 1996). Research indicates that PNE individuals score lower on IQ tests due to certain test sections that bring their scores down. With the exclusion of these test sections, PNE individuals showed average IQ scores (Coles et al., 1991; Streissguth, Barr, & Sampson, 1990). Due to the isolation of these deficits through testing, research has looked closely at two main areas when it comes to specific cognitive deficits in those individuals who are prenatally exposed and those who are postnatally exposed: learning disabilities and language disorders.

Driscoll, Streissguth, and Riley (1990) reviewed animals and the effects of gestational alcohol exposure. Many deficit areas were discovered including deficits in learning, inhibition, attention, regulatory behaviors, and motor performance. Children who were prenatally exposed to alcohol showed very similar areas of deficit as the animals (Driscoll et al., 1990). In addition, longitudinal studies involving PNE children show consistency in impairment patterns. These impairment patterns show that children who are exposed to lesser amounts of alcohol prenatally show smaller deficits when compared to those with FAS (Driscoll et al., 1990). However, keep in mind that children who are exposed to lesser amounts of alcohol prenatally still suffer impairments in similar areas as children who have FAS. One longitudinal study by Streissguth et al. (1990) reported that PNE individuals showed significantly greater weaknesses in arithmetic skills. Neuropsychological tests showed impaired spatial and verbal memory, reduced flexibility in problem solving, and poorer attention span. When looking at teachers' reports, the authors found that teachers reported PNE children as being less cooperative than other children, having poorer grammar, poorer memory, less comprehensive abilities, and less impulse control (Streissguth et al., 1990).

Weinberg (1997) added to this research by reporting that binge-drinking patterns by the mother during pregnancy were associated with poorer reading, poorer mathematics skills, and increased risk for learning disabilities in the child. Coles et al. (1991) looked at PNE and postnatal exposure in children of an African-American low socioeconomic status community. They found that regardless of when the alcohol use of the parent occurred, the child of the alcohol misusing parent had an increased risk for poor sequential processing, poor pre-reading skills, and reduced math skills (Coles et al., 1991).

When looking at brain functioning, frontal lobe damage is seen in PNE individuals with learning disabilities and behavioral problems (Roussotte et al., 2010; Stratton et al., 1996; Weinberg, 1997). Other problems include microcephaly (small cranial size at birth), agenesis (lack of development) of the corpus callosum, and cerebellar hypoplasia (cerebellum is missing or is smaller than normal) (Roussotte et al., 2010; Stratton et al., 1996; Weinberg, 1997). One study in particular looks closely at prevalence of FAS in classroom settings. Marino, Scholl, Karp, Yanoff, and Hetherington (1987) reported that children in special education classrooms were five to seven times more likely than children in regular classroom settings to have features that are indicative of fetal alcohol exposure. To clarify, the children with learning disabilities in these special education classrooms showed minor physical abnormalities consistent with the patterns associated with fetal alcohol syndrome (Marino et al., 1987). Therefore, earlier recognition of children at risk for academic deficiencies due to PNE can prove beneficial. Earlier referrals for evaluation and earlier interventions can help these students prevent school failure and dropout (Marino et al., 1987).

Returning to the topic of brain damage seen in PNE individuals, a more recent study by Silva, Benegal, Devi, and Makundan (2007) discussed frontal lobe damages in more detail, reporting smaller grey matter in the cingulate gyri, amygdala, hippocampus, parahippocampus, thalamus, and cerebellum of individuals who had high risk (strong family loading for alcoholism) in comparison to low risk individuals (Roussotte et al., 2010; Silva et al., 2007). In addition, the differences in brain volume seen in high-risk and low-risk individuals were greatest in younger subjects, with differences decreasing with age. These findings can be interpreted as maturation delay. Brain regions that are influenced by prenatal alcohol exposure are the same

brain regions that are significantly changing and maturing through child development (Benegal, Antony, Venkatsubramanian, & Jaykumar, 2007; Silva et al., 2007).

When it comes to learning difficulties in COAs, there have been consistent deficit patterns found that have a large amount of overlap with PNE research (Raman, Prasad, & Prakash Appaya, 2010; Weinberg, 1997). An older study by Gabrielli and Mednick (1983) researched intellectual performance in children of alcoholics. The authors looked at subjects who were 12 years of age and tested them on the Wechsler Intelligence Scale for Children (WISC) (Wechsler, 1949). The results indicated that the children who were at higher risk for alcohol misuse problems (as determined by interview and medical records) performed worse on all subtests, significantly for Verbal IQ, including Similarities and Vocabulary (Gabrielli & Mednick, 1983). Subsequently, they scored worse on Total IQ, with similar results for males and females. This lower Verbal IQ of individuals in the higher risk condition may be related to genetic factors, may be a consequence of environmental rearing, or may be due to biological changes in the subjects as a consequence of maternal drinking behavior (Gabrielli & Mednick, 1983).

Other studies have looked at deficit areas outside of the verbal range (Garland, Parsons, & Nixon, 1990; Pihl et al., 1990; Reich, Earls, Frankel, & Shayka, 1993; Schandler, Brannock, Cohen, & Mendez, 1993; Silva et al., 2007). Pihl et al. (1990) discussed that sons of male alcoholics have difficulty maintaining their concentration and their overall focus of attention (Pihl et al., 1990; Raman et al., 2010; Weinberg, 1997). Sons of male alcoholics likewise manifest deficits in test performance of linguistic ability, problem solving, and abstract thinking. The authors reinforce that the constellation of impairments seen in sons of alcoholics resembles the impairments seen in prefrontal cortical trauma (Pihl et al., 1990). Both Schandler et al.

(1993) and Garland et al. (1990) describe spatial learning deficits in sons of alcoholic fathers as well. They found that in relation to COAs, non-COAs required significantly fewer visuospatial trials to achieve learning on tests and produced significantly fewer errors. COAs also took significantly longer than non-COAs to make a correct response on tests of visuospatial ability and took significantly less time to make an error response. In addition, COAs showed significantly more non-responses than non-COAs (Schandler et al., 1993). Heilbrun, Cassidy, Diehl, Haas, & Heilbrun (1986) discussed these impairments of attention and cognitive scanning as well. They reported that because alcoholics display similar effects cognitively, that the impairments can be viewed as antecedents to alcoholism, rather than its consequence. This cause and effect relationship needs to be looked at in more detail in future research. Reich et al. (1993) contrasts the above literature by finding a weakness solely in reading achievement of COAs.

In the case of language disorders, there is scarceness in studies. According to Weinberg (1997), there are studies that have found deficits in pragmatics of speech and semantics in prenatally exposed (PNE) children. Language disorders in this population are important because the resulting deficits can lead to problems later in life, especially troubles in peer relationships. Similarly, language disorders can affect the self-esteem and ego development of the COA. However, additional research is needed in this area to clarify exactly how language disorders affect the behavioral and social problems in these children and adolescents (Weinberg, 1997).

Emotional Deficits

Almost all studies in this literature review that have examined parental alcohol misuse and children's emotional functioning have found a strong link between the two categories. Research has shown that COAs have higher rates of anxiety and depression symptoms, lower perceived self-control, and lower self-esteem (Rolf, Johnson, Israel, Baldwin, & Chandra, 1988;

Schuckit & Chiles, 1978; Velleman & Orford, 1999). COAs exhibit more levels of stress and more depressive affect than do children from non-alcoholic families. Christensen and Bilenberg (2000) found that, with regards to this greater risk of COAs to have severe emotional problems, the COA population has double the risk of depression and internalizing symptoms than the reference population (Christensen & Bilenberg, 2000). In addition, COA's self-reports of depression are more likely to fall on the extreme end of the scale, with great enough deviations from the expected norm to merit concern on a clinical level (Rolf et al., 1988; Schuckit & Chiles, 1978; Velleman & Orford, 1999).

Interestingly, Moos and Billings (1982) found that the emotional strain of parental drinking on children diminishes with the termination of parental drinking. The authors looked at emotional problems in children from families that had a recovered parent, a relapsed parent, and a non-alcohol misusing parent. The results indicated that children of relapsed alcoholics evidenced more symptoms of emotional disturbance than did children in the control group. In comparison, the children of recovered alcoholics were functioning equally to the control children. Further analysis within this article led to the conclusion that the emotional status of the child was also affected by the emotional, physical, and occupational functioning of both alcoholic and non-alcoholic parent as well as to family life stressors (Moos & Billings, 1982). Moos and Billings (1982) added that the stress-related effects of parental alcoholism on children diminish when parents are able to control their alcohol misuse.

On a clinical level, emotional deficits are necessary to address because a majority of children with at least one alcohol-misusing parent are exhibiting these emotional deficits and are in need of mental health services (Cooke, Kelley, Fals-Stewart, & Golden, 2004). Cooke et al. (2004) revealed that a significant percentage (45%) of custodial children of substance-abusing

fathers manifested clinically significant levels of emotion and behavior problems. Unfortunately, according to Fals-Stewart, Kelley, Fincham, and Golden (2002), regardless of their children having these deficits, the majority of alcohol misusing fathers (75%) would not allow their children to receive any sort of mental health counseling in either the children's mental health setting or the substance abuse treatment program setting. Due to parents not being obligated to have their children receive mental health services, the most obvious avenue for improvement in functioning for these children is parental interventions (e.g. couple's counseling to reduce parental conflict which subsequently reduces parent-child conflict) (Fals-Stewart et al., 2002).

Along similar lines, family variables facilitate the relationship between parental alcohol misuse and self-esteem of the COA. Alcohol misuse affects the parent's behavior in negative ways, resulting in argumentative behavior, marital conflict, violence, and neglect. These behaviors influence communication, temperament, and openness between family members (Cork, 1969; Kammeir, 1971; Keller et al., 2005; Kelly et al., 2002; Mayes & Truman, 2002; Rangarajan & Kelly, 2006; Wilson & Orford, 1978). Rangarajan and Kelly (2006) looked directly at the significant relationship between parental alcohol misuse and offspring self-esteem. Interestingly, they also looked at mediators and found two in particular that were of significance. Both parental disregard of the child in the family environment and negative family communication patterns had significant negative impacts on the self-esteem of the COA. (Rangarajan & Kelly, 2006).

Maternal vs. paternal alcohol misuse has been shown to have differing effects on COAs depending on child gender (El-Sheikh & Flanagan, 2001; Grekin et al., 2005; Haugland, 2003; Hussong et al., 2005; McKenna & Pickens, 1981; Velleman & Orford, 1999). In relation, Rangarajan and Kelly (2006) looked closely at the conversation orientation model. This model

stated that although both maternal and paternal alcohol misuse disrupt family environment, paternal alcohol misuse is more disruptive. The reason is that paternal alcohol misuse leads to worse family communication patterns. These deficits in family communication lead to lower self-esteem in offspring. Additionally, the authors suggested that when family norms favor conformity and lack of communication, children's violations and attempts at effective communication are likely met with some form of punishment or retaliation by the parent (Rangarajan & Kelly, 2006). In regard to family communication, if children of an alcohol misusing parent are able to discuss their fears and insecurities with a non-alcoholic parent or other members of their social network, then these lines of open communication can be protective factors for the child against low self-esteem (Rangarajan & Kelly, 2006).

The last issue that needs to be addressed when it comes to emotional deficits in offspring of alcohol misusing parents is the inability to identify emotions in oneself or other. This is known as alexithymia, a personality construct that is said to be a risk factor for substance abuse (Kornreich et al., 2003). Disturbed emotional and social interactions between alcohol misusing parents and their offspring have been linked to the development of alexithymia. Interestingly, this emotional blindness is exhibited with misusing individuals as well. Research regarding alexithymia is important because COAs and current alcohol misusers are shown to avoid emotionally close relationships. Even if they do form relationships, the individuals exhibit superficiality and lack emotional connectedness to the relationship (Vanheule, Desmet, Meganck, & Bogaerts, 2007). These individuals do not understand their own emotions and regularly look uninterested in other people and in their own life. They have a tendency to drink and have substance abuse problems (Hesse & Floyd, 2008). Regarding clinical practice, these individuals tend to withdraw from others. They abstain from sharing intimate experiences,

making productive psychotherapy with these individuals very difficult. Therefore, the therapeutic relationship should be the main focus in addition to helping the client gain insight into their own affect and arousal (Hesse & Floyd, 2008). The state of the therapeutic relationship should try and be discussed openly throughout therapy. The therapist should try and create an atmosphere that welcomes open communication. This comfortability will help stimulate the client's capacity to think about the therapeutic alliance as well as relationships they have or do not have outside of the therapy room. The emotional meaning of relationships is not something those with alexithymia are used to reviewing (Vanheule et al., 2007). If alexithymics do not receive proper mental health care, their lack of emotional awareness can cause great interpersonal deficits. These deficits include lack of communication, lack of emotional closeness in relationships, intrapersonal discrepancies such as depression, stress, and disconnect from oneself, and increased stress (Kornreich et al., 2003; Vanheule et al., 2007).

Summary

Overall, there are many elements that influence the effect of parental alcohol misuse on offspring. There are also numerous deficits we see, including behavioral, academic, cognitive, and emotional deficits. Some findings propose that COAs demonstrate such problems as lying, truancy, stealing, fighting, and school behavior problems. Subsequently, COAs are usually diagnosed as having some form of conduct disorder (Hinrichs et al., 2011; West & Prinz, 1987).

Steinhausen et al. (1982) established that children of alcoholic mothers showed higher rates of hyperactivity, poorer attention span, more temper tantrums, and additional organization problems when compared to control groups. Teachers reported higher rates of impulsive-restless behaviors in offspring of alcohol misusing parents compared to a control group (Knop et al., 1985). Both the Devereux Child Behavior Rating Scale (DCB) and the Devereux Adolescent

Behavior Rating Scale (DAB) suggest that there is a significant degree of difference in pathological behavior between COA groups and non-COA groups (Spivack et al., 1967; Spivak & Spotts, 1966). Fine et al. (1976) utilized both scales to report differences between COAs and control subjects. The results indicated that COAs exhibited significantly more neurotic syndromes, including lower emotional responsiveness, more hypersensitivity, higher anxiety, higher fearful ideation, more impulsivity, and more social aggressiveness. Additionally, COAs were reported as having less control of their moods and having impaired learning of morals and codes of conduct (Fine et al., 1976). It must be remembered that while parental alcohol misuse itself may place children and adolescents at greater risk for a number of different problems, the personal experiences the children have within their families can ultimately determine the likelihood of developing significant problems (Bennett et al., 1988). Most studies researched in this literature review show that parental alcohol misuse does not directly affect COAs. However, the research more accurately reports how alcohol affects the abilities of the parent to properly parent their child as determined by their alcohol misuse (Burke et al., 2006; Fine et al., 1976; Kammeir, 1971; Kelly et al., 2002; Hussong et al., 2005; Offord et al., 1978; Spijkerman et al., 2008; Velleman & Orford, 1999; Wilson & Orford, 1978; Waldron et al., 2009).

Another area of interest when reviewing deficit areas of COAs is academics. Numerous academic problems have been researched regarding COAs and their achievement. Known difficulties involve learning, reading, concentration, and school performance (Mcgrath et al., 1997; Sher, 1991). In addition, COAs were likely to be reported by teachers as exhibiting more fidgeting behavior, restlessness, and confusion (Knop et al., 1985). COAs had lower graduation rates, higher suspension rates, and higher expulsion rates (Miller & Jang, 1977; Pihl et al., 1990; Pinto & Kulkarni, 2012). Pullen (1994) reported that there is a relationship between the alcohol

use of college students and their college grade point average (GPA), indicating that college students who consumed more alcohol tended to have lower GPAs (Pullen, 1994). Desimone (2010) looked at the high school population and similarly reported a negative relationship between GPA and drinking behavior. This negative relationship between GPA and drinking is especially true when binge-drinking behavior becomes a factor. However, cause and effect is hard to determine when looking at the relationship between alcohol use and GPA (Jeynes, 2002).

Another area that is researched in great detail is the cognitive deficits expressed in children of alcohol misusing parents. When discussing cognition, there are two categories that need to be analyzed: prenatal exposure and postnatal exposure (Weinberg, 1997). Prenatal exposure to alcohol is cited as the most common cause of mental retardation outside of genetics (Weinberg, 1997). FAS, coined by Lemoine et al. (1968), has therefore received extensive research. FAS consists of retardation in growth, involvement of the central nervous system, including developmental delays and behavioral or intellectual impairments, and various characteristic traits including distinct facial features and reduced size of the newborn (Aase, 1994; Roussotte et al., 2010; Stratton et al., 1996; Weinberg, 1997). Neuropsychological tests reported that PNE individuals show impaired spatial and verbal memory, reduced flexibility in problem solving, and decrease in attention. Teachers reported these children as exhibiting less cooperation, poorer grammar, poorer memory, and less comprehensive skills when compared to non-PNE students (Streissguth et al., 1990). The cognitive impairments related to PNE usually manifest in learning disabilities and language disorders. The children with these impairments show similar frontal lobe damage as those with fetal alcohol syndrome (Benegal et al., 2007; Gabrielli & Mednick, 1983; Garland et al., 1990; Marino et al., 1987; Pihl et al., 1990; Raman et

al., 2010; Reich et al., 1993; Schandler et al., 1993; Silva et al., 2007; Stratton et al., 1996; Weinberg, 1997).

Lastly, emotional deficits are seen in COAs pretty consistently. These emotional deficits are mediated by parent and child communication patterns, marital conflict, violence within the family, neglect by the parent, familial connection with the COA, and openness for emotional expression within the family (Cork, 1969; Kammeir, 1971; Keller et al., 2005; Kelly et al., 2002; Mayes & Truman, 2002; Rangarajan & Kelly, 2006; Wilson & Orford, 1978). Past research has shown that COAs have increased anxiety and depression symptoms, lower perceived self-control, lower self-esteem, and higher levels of stress (Rolf et al., 1988; Schuckit & Chiles, 1978; Velleman & Orford, 1999). In addition, proximity of parental alcohol use is important, with the diminishment of parental alcohol use being shown to have significant benefits for the offspring (Moos & Billings, 1982). However, there seems to be a strong disconnect clinically between the needs of the child and the will of the alcoholic parent. This is unfortunate because these individuals who exhibit severe emotional deficits could benefit greatly from mental health services (Cooke et al., 2004; Fals-Stewart et al., 2002). If these children are given the chance to discuss their fears and insecurities with a non-alcoholic parent, member of their social network, or mental health professional, then these communication outlets can be protective factors for COAs against negative outcomes such as low self-esteem (Rangarajan & Kelly, 2006).

Interventions and Practice Implications

Introduction

Alcohol misuse often impairs the functioning of parents. This decrease in parental functioning has harmful effects on the children as a result. Those individuals providing treatment tend to focus on how they as professionals can intervene on the problematic drinking behavior of

the adult. This is usually done by directing their attention to the health consequences of alcohol misuse and alcohol's effect on the particular user (Burke et al., 2006). Gronbaek (2009) is one of many articles that discussed the various negative effects of alcohol use. The negative effects include cirrhosis, cancer (including oesophagus, breast, and colorectal), hypertension, and diabetes. These articles also describe various confounding variables, including age, gender, stress, and drinking pattern (Gronbaek, 2009). Only after the physical health of the alcohol misuser is reviewed do most service organizations switch attention onto the individuals being affected by the alcohol misuser (i.e. children and family). However, the physical well being of the alcohol misuser is not the only person physically affected by the alcohol misuse. Serec et al. (2012) added that past studies have recognized various physical consequences of parental alcohol misuse on COAs. Putnam (1985) found that preschoolers of an alcohol misusing parent were 65% more likely to be ill than non-COAs. Moos and Billings (1982) added to this research, reporting that COAs were more likely to come down with a cold, a cough, and allergies. Furthermore, COAs were reported to have a higher chance of being overweight or underweight (Moos & Billings, 1982).

Overall, interventions pertaining to parental alcohol use are categorized into three distinct sections. They are separated by population and include interventions designed to help the parent specifically, help the child of the alcohol-misusing parent specifically, or help the family. Interestingly, not many interventions have been designed to specifically target alcohol misuse alone on the family (Burke et al., 2006). However, many interventions are designed to specifically address parenting problems and the resulting effects on family functioning. These interventions specifically address supportive and nurturing parenting. They are ultimately

designed to reduce the risk for later substance use and consequently the high cost of delinquency and mental disorders (Broning et al., 2012).

When choosing an intervention strategy, three parental alcohol misuse intervention factors should be considered. These include the place of alcohol in the life of the parent, the effect of alcohol on the parent, and the effect of parental alcohol misuse on the child (Burke et al., 2006). The factors that influence the effect of alcohol on the parent has been discussed in previous sections of this literature review. These factors include the frequency, timing, and location of alcohol use by the parent (Burke et al., 2006; Laybourn et al., 1996; Werner, 1986; Wilson & Orford, 1978). Additional information needs to be obtained regarding how level of supervision and general domestic functioning lead to child deficits (Kroll & Taylor, 2003).

The place of alcohol in the life of the parent is an important parental alcohol misuse intervention factor as well. Gaining awareness of the role of alcohol in the misuser's life can help caretakers plan intervention strategies. This awareness can help the alcohol misusing parent gain insight into their own drinking patterns and thought processes surrounding alcohol (Burke et al., 2006). Additionally, it is important to obtain information concerning why the parent began misusing alcohol. Some reasons parents drink include insecurities about being a parent, feelings surrounding the child, inability to effectively manage stress, feelings of loneliness, and feelings of depression (Kroll & Taylor, 2003).

The third parental alcohol misuse intervention factor is the effect of alcohol misuse on the child. These effects vary based on the drinking patterns of the parent as well as the age of the COA, gender of the COA, length of parental alcohol use, parental misuse exposure of the COA, familial influence, and resilience of the COA (Burke et al., 2006; Corral et al., 1996; El-Sheikh & Flanagan, 2001; Grekin et al., 2005; Haugland, 2003; Hussong et al., 2005; McKenna &

Pickens, 1981; Obuchowska, 1974; Sher, 1991; Velleman & Orford, 1999; Werner, 1986; Wilson & Orford, 1978). Three prevention models in particular will be reviewed in this literature review. These prevention models are aimed to categorize intervention strategies used with parental alcohol misuse and its effects on COAs. The first prevention model is primary prevention. Primary prevention's main focus is on children who have not yet exhibited specific problems, but through genetic influence and visibility of environmental factors may be at risk (Price & Emshoff, 1997; Williams, 1990). Secondary preventions target children who are exhibiting behaviors that foretell of future alcohol misuse within themselves. Tertiary prevention deals with those individuals who are already involved in problematic alcohol use. These programs are specifically intended to try and prevent further decay of deficit areas (Price & Emshoff, 1997; Williams, 1990).

Primary Interventions

Primary prevention techniques use societal and sociocultural prevention strategies. Price and Emshoff (1997) described a prevention technique they called "distribution of consumption." This technique worked to reduce the number of problem drinkers, thereby reducing the number of offspring influenced by alcohol misuse. This strategy discussed raising the legal drinking age and increasing the price of alcoholic beverages in the hope that alcohol consumption will be reduced. However, this is a very broad and indirect method of helping COAs and potential alcohol misuse (Price & Emshoff, 1997).

More direct primary prevention techniques are focused on education and improving children's knowledge of alcohol through examination of their own values. In addition, clarifying and interpreting these views on alcohol will help COAs gain awareness about possible future issues with alcohol (Williams, 1990). The strengthening of COA's resilience toward alcohol

misuse using information, value clarification, and skill building techniques can possibly result in COAs choosing abstinence or at the least moderation of their own drinking behavior (Williams, 1990). In addition, sociocultural programs can be utilized in schools, at recreational events, and in physician's offices (Williams, 1990). The goal of these programs is to educate individuals and give them useful necessary tools, insight, and knowledge they can use to avoid later alcohol problems (Price & Emshoff, 1997). In sum, primary prevention interventions need to meet a wide range of needs. Different interventions will work for alcohol misusing parents, their children, and the family unit as a whole.

Two of the most important areas of focus for primary preventions are within the community and within schools (Williams, 1990). Community-based prevention programs include media campaigns, adult and youth education services, and health professional education (Johnson & Solis, 1983). However, it is important to ensure that prevention programs do not just target the high-risk groups. The majority of COAs with deficits are distributed in the risk factor midrange rather than at the extremes (Perry, Klepp, & Schultz, 1988). Even though Perry et al. (1988) specifically reviewed cardiovascular health and not alcohol misuse, it relayed the generalized message of avoiding the neglect of any potential cases that involve individuals showing deficits. Community programs can lead to indirect effects that can decrease risk factors for potential alcohol misuse in COAs (Williams, 1990). For example, programs aimed at a healthy lifestyle can help individuals decrease stress, which in turn can help decrease alcohol misuse as a coping mechanism for this stress, which can hopefully help individuals avoid obtaining alcohol misuse later in life (Williams, 1990).

A second area of interest when reviewing primary prevention is within schools. One program in particular stands out among the rest: the Cambridge and Somerville Program for

Alcoholism Rehabilitation (CASPAR) alcohol education program (Cambridge and Somerville Program for Alcoholism Rehabilitation, 2011). This program is an out-of-school non-profit organization founded in 1970 that provides community-based services to those affected by substance use disorders. This program was founded on the notion that those affected by alcohol misuse need treatment not incarceration. By providing education on alcohol and alcoholic families in the classroom setting, this program helps children before their problems become obvious, too hard to overcome, and too difficult to change (Williams, 1990). After receiving information in the classroom, individuals have the option to attend after-school groups to gain more information on alcoholic families and alcohol in general. A big strength of this program is that the leaders of the education program are adult children of alcoholics. This helps make the groups much more personal and salient for those who volunteer for it. So far, the children of alcoholic families who have taken part in this program have reported high percentages of positive learning experiences. A large number of individuals reported that they were taking action to drink differently as well and were actually drinking less as a result of the group experience (Williams, 1990).

Secondary Interventions

Secondary prevention programs target problem behaviors specifically. Not only do they try to identify and attend to early symptoms of problem drinking in the adolescent, but they work to alter current dysfunctional behaviors. These intervention programs make an attempt to enact proper coping skills in the COA, hopefully decreasing the impact of problem drinking risk factors (Williams, 1990). Adolescence is an important time to intervene due to COAs experiencing an increase in psychosocial deficits. These psychosocial deficits include lower self-esteem, greater impulsivity and hyperactivity, less internal locus of control, higher rates of

illness, more conduct disorders, and more academic problems in COAs than non-COAs (Williams, 1990).

Looking across age groups, a variety of interventions have been developed. However, most secondary prevention programs focus on group settings for addressing issues of alcoholism in the family (Williams, 1990). According to Bingham and Bargar (1985), alcoholism carries a very large and very present social stigma. This stigma can increase the denial of an individual, whether they have the alcohol-misusing problem or are affected by someone with an alcohol-misusing problem. When placed in a group setting, these individuals are surrounded by other people facing similar experiences as them. This creates a universality of experience and can reduce the isolation that the child or adolescent may feel (Bingham & Bargar, 1985). The goals in group therapy are to provide information about the disease of alcoholism and help repair relationships that have been damaged due to the disease. Another goal is to help facilitate the expression of feelings in the individual. This is crucial because COAs usually learn that it is not permissible to express feelings like sadness, anger, and fear in the presence of their alcoholic misusing parent (Bingham & Bargar, 1985).

Therefore, a group setting can provide the sense of safety that COAs need. They can become aware of their feelings and learn to be comfortable sharing them without being punished or ignored (Bingham & Bargar, 1985). COAs can learn healthy social interaction techniques, which are hard to learn in an unpredictable home environment. They can begin to take risks and trust others. They can learn to have reliance in others and begin to invest faith in people rather than internalizing their thoughts and emotions. This is liberating for COAs because they no longer solely have to rely on themselves for improvement (Bingham & Bargar, 1985).

Tertiary Interventions

Tertiary prevention programs focus on halting further deterioration in those individuals who are currently exhibiting deficits. The goal is to help these individuals ultimately regain their health and improve (Williams, 1990). These programs utilize multiple treatment modalities, including family therapy, behavioral parent training, in-home family support, family in-home education, home visiting, and family skills training (Williams, 1990). The first intervention strategy is family therapy, which is proven to be a worthwhile treatment type with alcohol misusing families. The main reason is because successful interventions with families usually involve working towards more effective communication among family members and reducing anxiety and depression through support and cohesion (Schuckit, Smith, Radzimirski, & Heyneman, 2000). Family cohesion is paramount because alcoholism can cause a significant imbalance in the family system.

However, sometimes the alcoholic parent will not want help or believe treatment is needed. Even if the alcohol-misusing member of the family is not present in the therapy or program, progress can still be made (Bowen, 1974). Changes in the rigid familial structure can be enough to make the alcoholic member of the family uncomfortable enough to seek treatment. However, whether children should be included at all is a topic of debate. Most often, family therapy consists of the couple going into therapy without the child, even though the child may be the focus of the therapy (Williams, 1990).

However, Copello, Orford, Velleman, Templeton, and Krishnan (2000) argued that all COAs need to be present in therapy for it to be most effective. They mentioned five steps in particular that are important when working with alcoholic families. The first step involves giving the alcoholic family member the opportunity to speak and explain areas of stress that come up

for them in their life. It is important to understand how the problematic drinking behavior manifested, as well as how it currently is viewed by the alcohol misusing parent and the family. Also, it is important in this step to reassure the individual that the problems they are experiencing as a result of their alcohol misuse are not unusual. Step two involves educating each individual about alcohol and its effects on the body. Step three involves coping strategies, in particular how the family currently copes with alcohol use in the family. Individuals of the family can either be engaged, tolerant, or withdrawn during this step. Therapy will vary depending on which category each individual in the family presently identifies with. Step four involves exploring and enhancing the levels of friend and family social support. Step five involves discussing the possibilities of referral for future help. These steps can prove very useful when working with alcoholic families, providing a place to speak freely without physiological and psychological strain (Copello et al., 2000).

The second treatment intervention utilized in tertiary prevention programs is behavioral parent training (Patterson & Narrett, 1990). Behavioral parent training is a behavioral based approach involving parents of young children. It is setup in either individual sessions or small group session and is led by a skilled trainer. This program consists of six 1-hour sessions, but can be up to 100 hours for in-crisis families. It utilizes role-plays, videos, monitoring, and charting to teach proper parenting skills to parents. These skills include increasing attention to positive child behaviors, improving monitoring and communication, and using more effective disciplinary practices. This program works to help increase child compliance and reduce conduct disorders. It has been found to be very helpful for children with ADHD (Patterson & Narrett, 1990).

In-home family support is another tertiary prevention intervention (Kumpfer, Alvarado, & Whiteside, 2003). This approach involves mainly high-risk and in-crisis families. These

family crises as well as the basic needs of the family are addressed before moving on to future improvement. This program modality has been found to reduce aggressive behavior problems and conduct disorders in children (Kumpfer et al., 2003; Tobler & Kumpfer, 2000). In addition, family in-home education has proven to be effective (Bauman et al., 2000). This involves parent involvement in homework assignments related to drug use and unhealthy behaviors. This involvement on the part of the parent has shown to reduce substance use in the alcoholic misusing parent as well as increase connection between family members (Bauman et al., 2000).

Home visiting is another intervention that is used to assist alcohol-misusing parents with young children. One intervention by Black et al. (1994) looked at sixty alcohol-misusing upcoming mothers. A community nurse made bi-weekly home visits beginning before the birth of the child and these visits continued until the infant was 18 months old. The aim of this intervention strategy was to provide support for the parent, promote good parenting practices, and link mothers with community support. The children were then assessed at 3, 6, 12 and 18 months old through observation of behavior in the home and self-reported substance misuse. The intervention proved to be effective for decreasing parental alcohol use. Additionally, the children were more likely to be raised in a stimulating home environment (Black et al., 1994). Most home visit programs involve at-risk mothers and follow them throughout the first two years of motherhood. The program helps these mothers with parenting skills while keeping them accountable for their alcohol misuse to keep them from decline. Programs that proved most successful were those where the visitors of the home were trained well and proven qualified. Those programs that likewise proved successful were ones specifically targeted to assist with a specific client group such as COAs (Burke et al., 2006).

Family skills training programs combine the parent training group components and children's social skills training group components and follow it with a family session (Kumpfer et al., 2003). These programs try and teach positive play within the family, effective communication styles, and efficient discipline. Family skills training programs work to increase parenting skills, increase confidence, reduce depression, reduce stress, reduce substance abuse, increase organization, promote positive communication, and increase the social skills and competencies of the child. The goal is utilize these skills effectively to help reduce conduct disorders, aggression, and substance abuse (Kumpfer et al., 2003). These interventions also work to create more parent/child bonding. One program in particular, Strengthening Families Program (SFP), has proven effective across multiple replications. SFP is a 14-session family skills training program that was designed for children of parents addicted to alcohol and drugs (Kumpfer et al., 1989). The program consists of parent skills training, children skills training, and family life-skills training. There are two follow up sessions at six and twelve months. Upon arrival to the program meeting destination, families are given time to practice their skills. They are then broken into their individual skills training groups, reconvene in the larger group to practice role plays of family meetings, play time, and effective disciplinary practices. The program consists of two trainers for parents and two trainers for children who conduct the interventions weekly. Each meeting lasts approximately 2.5 hours (Kumpfer et al., 1989; Kumpfer et al., 2003). SFP has been adapted to fit various cultures and attend to families from all major racial groups. In 2001 alone, over 1000 practitioners from 450 different agencies across the United States were trained in SFP (Kumpfer et al., 2003).

Summary

Overall, interventions are designed to help the alcohol-misusing parent specifically, help the child of the alcohol-misusing parent, and help the family cope as a whole with changes being made. Not many interventions have been designed to specifically target alcohol misuse alone on the family however (Burke et al., 2006). Many interventions are designed to purposely address parenting troubles and the resulting effects on the functioning of the family. Clinically, three alcohol concepts should be looked at specifically when dealing with the family, including what the place of alcohol is in the life of the parent, what the effect of alcohol is on the parent, and what the effect of alcohol misuse is on the child (Burke et al., 2006). In addition, numerous prevention models have been developed depending on the current alcohol stage. These prevention models include primary preventions that focus on children who may be at risk for future problems (Price & Emshoff, 1997; Williams, 1990), secondary preventions which target children already exhibiting risk behaviors of future alcohol misuse, and tertiary preventions that try and assist individuals currently showing problematic alcohol use, while working to prevent future problems (Price & Emshoff, 1997; Williams, 1990).

Discussion and Conclusions

Parental alcohol use affects children and adolescents in numerous ways. This wide array of issues makes it difficult for clinicians, practitioners, and child protection workers to distinguish the extent of the effect of alcohol misuse on COA's behavioral, academic, cognitive, and emotional functioning. Thorough assessment procedures are needed to narrow cause and effect relations between alcohol misuse and these deficit areas. Numerous interventions have been used with families suffering from alcohol misuse. These interventions usually are separated into helping the alcohol misusing parent, helping the child affected by the alcohol misuse, and

helping the functioning of the family as a whole. However, not much research has been done that specifically looks at the effect of alcohol misuse alone on the family (Burke et al., 2006).

The reviewed literature suggests that parental alcohol misuse affects the functioning of the child, even with the influence of many different confounding variables. Various demographic variables come into play, including not only the gender of the child but the gender of the alcohol-misusing parent. (El-Sheikh & Flanagan, 2001; Grekin et al., 2005; Haugland, 2003; Hussong et al., 2005; McKenna & Pickens, 1982; Ohannessian, 2012; Serec et al., 2012; Velleman & Orford, 1999). Another confounding variable is the length of time that the COA is exposed to the parental alcohol, with longer exposure time equating to more deficits shown in the COA (Burke et al., 2006).

Family history with alcohol use and resiliency of the child are shown to be factors affecting the severity of deficits due to parental alcohol misuse as well. Children who have an absence of positive mother contact show increased levels of aggression, increased passivity, and negative attitudes towards social values (Kelley et al., 2011; Obuchowska, 1974; Topper et al., 2011). There is shown to be a strong link between parental drinking and the way the child views alcohol as well (Sher, 1991), especially when it comes to the drinking patterns of the parent (Wilson & Orford, 1978) and the availability of alcohol in the home (Frieze et al., 2012).

Another area of interest when looking at the effect of parental alcohol misuse on children is parental conflict. The communication between couples when alcohol is the topic is very poor. (Kelly et al., 2002). This communication is made even more difficult when both parents are alcohol misusers (Hussong et al., 2005; McKenna & Pickens, 1981). This inability to communicate leads to high rates of separation alcohol misusing relationships (Kammeir, 1971; Torvik et al., 2013). More conflict arises when the children become the mediators of arguments.

This mediation can result in one or both parents turning against the child, resulting in confusion and isolation felt by the COA (Kammeir, 1971).

This confusion and isolation felt by the COA usually results in parent-child relational issues, another factor that influences the effect of parental alcohol misuse on children. COAs become overly concerned about parental fighting and report less fun and laughter in their lives. This can result in the COA viewing their family as unfavorable compared to those of their peers (Cork, 1969; Wilson & Orford, 1978). This negative comparison behavior along with the tension felt by the COA due to the parental alcohol misuse can result in disdain or ambivalence directed toward the parent by the COA (Wilson & Orford, 1978). Conflict between parent and child can also lead to lack of social competence in the COA (Hussong et al., 2005) and bad parenting practices within the family (Keller et al., 2005; Mayes & Truman, 2002). Unfortunately, children may not even be aware of their symptoms until it is too late to avoid deficits (Keller et al., 2005).

Sibling and peer relationships can play a large part in the development of problem areas in COAs. Sibling relationships are mainly looked at in terms of how the older sibling affects the younger child (Bahr et al., 2005; Jacob & Johnson, 1997). Positive relationships between siblings can result in better outcomes related to alcohol and less drug use (Brook et al., 1990). Moreover, the friends of both siblings can contribute greatly to future alcohol misuse problems in the COAs (Rowe & Gulley, 1992). Overall, it seems as though modeling is the main factor at work when discussing sibling and peer influence on the behavioral problems and thoughts of the COA regarding alcohol (Akers & Sellers, 2004; Maxwell, 2002; Perkins, 2007; Petraitis et al., 1995; Rowe & Gulley, 1992). Each one of the factors listed above influence the effect of parental alcohol misuse on children and adolescents. Additionally, each are shown to have an impact on the severity of behavioral, academic, cognitive, and emotional deficits seen in COA populations.

Gaps in the Literature and Future Research

Parental alcohol use affects children and adolescents in a number of ways, which makes it difficult to directly distinguish the extent of the effect of alcohol misuse on the behavioral, academic, cognitive, and emotional functioning of this population. Interventions relating to alcohol misuse are broken into three categories that include primary, secondary, and tertiary interventions. These interventions meet alcohol misuse on societal, preventive, and rehabilitative levels. Primary interventions deal with prevention techniques on a large scale, secondary interventions target problem behaviors early to avoid future issues, and tertiary interventions focus on stopping further dysfunction and maintenance of positive change.

Even though it has been very well researched, there is still a large amount of research that needs to be completed relating to the topic of parental alcohol use and its effects on children. On a care giving level, professionals from the many different disciplines that provide services for children of alcoholics need to have open communication. The multiple different professions providing care need to communicate more frequently and more in depth about the care they are providing to this population. This is not only helpful in providing service to the client, but can prove beneficial for research purposes and the obtainment of new information on the best way to effectively treat COAs. Along the same lines, the problems of children affected by parental alcohol misuse should merit greater recognition in clinical training, practice, and education.

Another area that needs more exploration is prenatal exposure (PNE) to alcohol. This involves recognizing the symptoms for not only fetal alcohol syndrome (FAS) but also more mild symptoms of PNE. In addition, clinicians and caregivers should recognize that the parents of these PNE individuals could potentially still be of childbearing age. Therefore, they should be referred for treatment to prevent damage to further possible children.

For future educational purposes, counseling young COAs should be an area of focus. Counseling young COAs about their risk for later alcohol problems is beneficial to the awareness of COAs. In addition, young COAs who have sought treatment, overcome their deficits, and improve despite their adverse backgrounds can educate other COAs on the factors that helped them reach success and be competent. Hopefully this education can result in further progress with this population and a decrease in deficit areas. Additionally, more research is needed on the impact of culture, race, and ethnicity on the effect of parental alcohol misuse on COAs. There is very limited research out there in surrounding these demographics and future examination of these factors should help clarify which households are most at risk for COA deficits.

Overall, there are a number of different factors that influence whether or not the son or daughter of an alcoholic parent will adopt any deficits. Even if the COA does adopt a deficit, it is very hard to pinpoint a direct cause and effect relationship. This is true considering the number of factors that can work together to create gaps in development and functioning. Tailoring interventions and programs to each individual is ideal considering the number of factors that can show in a COA's background history. This individualization of COA cases is what needs to be strived for by service providers, educators, clinicians, and all other populations that will potentially be involved with the treatment of COA deficits throughout their careers. The fact that these deficits can carry over into multiple different settings makes integrative care and effective communication between health professions essential for future progress in providing care to the COA population.

The review of this literature indicates that indeed the link between parental alcohol misuse and behavioral, academic, cognitive, and emotional deficits is significant and should be looked at more closely in the future. Parental alcohol misuse makes itself visible itself in

numerous ways through COA display. Unfortunately, parental alcohol misuse is usually always a secondary thought when considering the four deficit areas described in this literature review. However, there is no denying the effect substance misuse has not only on the life of the COA themselves, but on the parent and family of the COA. Knowledge that alcohol misuse in families usually occurs in the context of many other complex issues is what is needed. One big step for the future when it comes to solving any of the deficit areas mentioned in this literature review is to seriously consider parental alcohol misuse. By identifying the importance of this issue when working with children and adolescents exhibiting deficiencies, COAs can get not only the services they want but be provided the insight they need concerning the issues they are facing. This can lead to a healthier road to recovery for the COA.

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