



**NAN Review #2**  
**Alcohol, Drugs, and Parent-Child Attachment Relationships**

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**Introduction**

The purpose of this review is to provide an overview of theory and research regarding links between alcohol, drugs, and parent-child attachment. There is very little research regarding the effects of alcohol and drugs on parent-child attachment. Most of the research reviewed in this summary focuses on alcohol, although other drugs are mentioned when evidence is available.

**Alcohol and drugs affect human behaviour and development**

When someone drinks alcohol or uses mind-altering drugs they experience changes in their feelings, perceptions, and behaviours. This happens because alcohol and other drugs mimic naturally-occurring chemical messengers called neurotransmitters that help the cells in the brain communicate with each other and with the rest of the body.

When a pregnant woman uses alcohol or drugs, her developing fetus is affected. Because alcohol and drugs mimic the fetus's own chemical messengers, basic processes of fetal development—for example, cell formation, differentiation and migration—can be disrupted. This can cause birth defects and permanent damage to the brain, with lifelong consequences for the unborn child.

**Introduction to research in this field: The transactional model of human development**

Much current developmental research is based on a transactional or holistic model of human development (Sameroff & Chandler, 1975). The basic idea behind the transactional model is that the developing child is affected by his/her experiences in the world and at the same time affects the world. According to this view, there are many influences on human development and the developing child exerts many influences on their world, particularly on parents and other family members.

Most research examining the effects of alcohol and other drugs on development has not been based on a transactional view of development. Instead, the focus has been on identifying the

direct effects of alcohol and drugs on the developing individual while experimentally controlling other influences on development. This works well in animal research because animals can be subjected to experimental controls that cannot be used with humans. For example, a rat mother can be given alcohol at an exact time during her pregnancy and the dose of alcohol she is given can be strictly controlled. With such experimental controls in place, the effects of alcohol exposure on her pups can be directly linked to the timing and dose of alcohol she was given. The animals used in such studies help us understand the biological mechanisms that underlie the effects of alcohol and drugs on behaviour (Kelly, Day, & Streissguth, 2000).

Animal research is useful because there are some parallels between animal and human behaviours. In terms of parenting behaviours, humans usually respond to a crying baby by picking it up; similarly, a rat mother comes to her pups if they signal distress. Of course, human social and interpersonal behaviour is far more complex than that of rats, and human infants take far longer to reach maturity than do the young of other animal species. For these reasons, we must be very cautious in generalizing the findings of animal research to humans.

Animal research has revealed that size of dose, frequency of use, and, in the case of fetal development, timing of exposure influence the outcomes associated with use of or exposure to alcohol and drugs. Those factors are uncontrolled in the human-based research, partly because alcohol and drug use are self-reported and might not be accurate, and partly because factors such as maternal health, nutrition and stress are not considered. For these reasons, we do not yet know exactly how dose, frequency of use, or timing of exposure might be related to outcomes observed in humans.

Researchers in this area have analyzed the effects of alcohol and drugs on parent-child attachment from three different perspectives:

- The child with prenatal exposure to alcohol and drugs;
- The parent with prenatal exposure to alcohol and drugs; and
- The child who grows up in a home where the parents use alcohol and drugs.

In the following sections, each perspective and how it affects parent-child attachment is discussed separately. The final section of this review will summarize and integrate the perspectives to give a bigger picture of how alcohol, drug use and parent-child attachment are related.

### **The child with prenatal exposure to alcohol and drugs**

*Children who have had prenatal exposure to alcohol may be fussy as infants and may continue to display negative mood states throughout childhood. How does the potentially negative temperament of the prenatally exposed child affect the quality of the parent-child attachment?*

Children who are exposed to alcohol prenatally might be born with malformed limbs or organs, and almost always have some damage to their brain. As alcohol-exposed children mature, they

experience ongoing challenges. These can include learning and memory difficulties; behavioural problems such as attention deficit and hyperactivity; social difficulties such as problems making and keeping friends; and emotional disorders such as depression or anxiety (Kelly, Day, & Streissguth, 2000).

Human infants who have been prenatally exposed to alcohol often have feeding and sleeping troubles and may be fussy (Kelly, Day, & Streissguth, 2000). It is important to note these problems might not be a result of exposure to alcohol alone; some mothers who report drinking alcohol during pregnancy also report using tobacco, marijuana and/or cocaine during pregnancy (O'Connor, Kogan, & Findlay, 2002).

According to the transactional model, infant fussiness and regulatory problems could also be influenced by the quality of care the infant receives. It is not yet possible to tease apart the influences of prenatal exposure and quality of care on the human infant. However, animal research has shown that prenatal exposure to alcohol does cause regulatory problems. For example, rat pups prenatally exposed to alcohol take longer to attach to the nipple and spend less time suckling. In addition, alcohol-exposed rat pups have trouble getting the attention of their mother to come and pick them up (Kelly, Day, & Streissguth, 2000).

Alcohol exposure appears to be related to the quality of the parent-child attachment relationship. Compared to children who were exposed to no or low levels of alcohol, children exposed to significant amounts of alcohol prenatally were more likely to have insecure attachment relationships (O'Connor, Sigman, & Brill, 1987). However, it is unclear whether the high rate of insecure attachments is due to alcohol exposure, quality of care, or a combination of factors.

In one study, O'Connor, Kogan, and Findlay (2002) tried to clarify the role of quality of care and exposure to alcohol. They examined attachment relationships among 4 and 5 year old children whose mothers drank during pregnancy. They studied mothers who reported having used alcohol during pregnancy, covering a wide variety of drinking patterns from light drinking to heavy drinking. Many of the mothers also reported smoking cigarettes and having used some marijuana and/or cocaine during pregnancy, but mothers who reported daily cocaine use during pregnancy were excluded from the study.

The amount of alcohol mothers drank during pregnancy was associated with the security of the mother-child attachment relationship when children were 4 to 5 years of age. Among children whose mothers drank 2 or more alcoholic beverages per occasion during pregnancy, 80% were rated as having insecure attachments. In comparison, among the children whose mothers drank little or no alcohol during pregnancy, only 36% were rated as having insecure attachment relationships. These results suggest that prenatal exposure to alcohol increases the likelihood that children will develop insecure attachment relationships.

The findings of this study indicate there is more going on than a simple direct effect of alcohol exposure on attachment security, however (O'Connor, Kogan, & Findlay, 2002). The researchers observed mothers and children interacting during a frustrating puzzle task. Children whose

mothers reported having had 2 or more alcoholic beverages on any given occasion during pregnancy were more likely to frown, whine, sulk, pout, or cry during the puzzle task. Compared to children of the same age whose mothers drank little or no alcohol during pregnancy, these children were less able to cope effectively with the challenges of the puzzle task (O'Connor, Kogan, & Findlay, 2002). Compared to nonexposed children, alcohol-exposed children were more likely to be irritable and less likely to be able to cope when faced with the frustration caused by the puzzle task. These characteristics make children more difficult to parent, in turn making secure attachment relationships less likely.

The researchers also examined the parent's behaviour during the frustrating puzzle task and found that high quality parent-child interactions helped children overcome frustration and cope effectively. If mothers provided appropriate support and assistance while encouraging children to solve the puzzles, children's negative moods were minimized. Children with supportive mothers were better able to cope with frustration, and were more likely to have secure attachment relationships (O'Connor et al., 2002).

A parent who is sensitive and responds to the child's cues can make a big difference in the child's life, even when the child is developmentally challenged by prenatal exposure to alcohol or drugs.

### **The parent with prenatal exposure to alcohol and drugs**

*When children who have been prenatally exposed to substances grow up, some become parents themselves. Does their prenatal exposure influence the attachment relationships they have with their own children?*

There is very little research that has investigated the parenting abilities of people who were themselves prenatally exposed to alcohol or drugs. The scant body of research based on humans reveals that individuals prenatally exposed to alcohol encounter multiple challenges in their roles as parents, such as apprehension of their children by child protective services (Streissguth, Barr, Kogan, & Bookstein, 1996). The combined contributions of prenatal alcohol exposure, adverse life experiences and current life stressors to the parenting challenges experienced by individuals with prenatal exposure are poorly understood at present.

Kelly, Day, and Streissguth (2000) summarized animal research showing that rat mothers prenatally exposed to alcohol seem to show a lack of motivation when interacting with their pups. Maternal behaviours typical of the species are altered by prenatal alcohol exposure. Compared to nonexposed rat mothers, prenatally exposed rat mothers build nests of lower quality and take longer to pick up and move their pups. Prenatally exposed rat mothers also tend to ignore or drop their pups and may spend time grooming or feeding themselves rather than interacting normally with their pups. While the parallels between rat and human behaviours are intriguing, it is not clear how these animal study findings apply to parent-child attachment relationships in humans.

## **The child who grows up in a home where the parents use alcohol and drugs**

*Children, whether exposed or not exposed prenatally to alcohol and drugs, can be affected by parents' substance abuse. How does parental alcohol and drug use in the early years of a child's life influence parent-child attachment?*

There is some evidence that adults who currently have a drug use problem may have experienced an insecure or disorganized attachment when they were children (Andersson & Eisemann, 2004). When substance-using adults become parents, their children are more likely to experience more negative parenting (Olson, O'Connor, & Fitzgerald, 2001). Children with substance abusing parents also tend to experience higher rates of insecure parent-infant attachment (Edwards, Eiden, & Leonard, 2004).

In a study designed to investigate the effects of parents' drinking on attachment, Edwards, Eiden and Leonard (2004) studied families in which the mother and father had been living together since the child's birth and were the child's primary caregivers. Families in which the mother drank heavily or used drugs during pregnancy were excluded, as a way of controlling for the effects of prenatal alcohol or drug exposure. The researchers assessed mother-infant and father-infant attachment relationships on two occasions, once when the infant was 12 months old and again when the infant was 18 months old.

At 12 and 18 months of age, children were described as belonging in one of the following groups in relation to each of their parents: 1) stable secure attachment; 2) stable insecure attachment; or 3) unstable, where the attachment relationship changed from either insecure to secure or vice-versa over the 6 month period.

Compared to infants in the stable secure or unstable groups, infants who had stable insecure attachments with their mothers were more likely to have mothers and fathers who reported more alcohol use in the past year. Father-infant attachment was not related to parents' alcohol use in this study.

Overall, there is evidence that children growing up with mothers and fathers who misuse alcohol and drugs are more likely to have insecure mother-child attachments. However, it is unclear how parents' drug or alcohol use combines with other factors, such as child's negative moods or parental sensitivity to children's cues, to contribute to insecure parent-child attachment relationships.

### **Alcohol, drugs and attachment: The big picture**

An infant who was prenatally exposed to alcohol may be fussy and hard to soothe and might experience negative mood states through childhood. There is some evidence to suggest these characteristics make children harder to parent and can challenge the formation of secure attachment relationships. Once a parent themselves, the prenatally exposed individual might encounter parenting challenges.

If a parent uses alcohol or drugs heavily in the child's early years, then the parent-child attachment relationship is more likely to be insecure. Mother-child attachment relationship quality can be adversely affected by both parents' alcohol use. Because there is very little research on the link between parents' alcohol use and parent-child attachment quality, we must be cautious about drawing conclusions from existing research.

Research evidence indicates that both parents and children contribute to the quality of the parent-child attachment relationship. Perhaps the most important finding in this area is that a parent can minimize the adverse consequences of prenatal alcohol exposure by being sensitive and responsive to their child's needs.

This brief review has highlighted the need for research and program planning that is based on a transactional or holistic view of the parent-child relationship. Such research and programming will increase our awareness of the complex routes through which alcohol and drug use can affect parent-child attachment. Pajulo, Suchman, Kalland, and Mayes (2006) have designed a proactive treatment program for pregnant women and new mothers with substance use problems. In the program, the mother-child relationship is given first priority, rather than prioritizing drug treatment. Pajulo and colleagues suggest that the rewards of substance use can be replaced with the rewards of a nurturing parent-child relationship. Part of their theoretical argument is that drug use and high quality parent-child relationships both stimulate the "pleasure centres" in the brain. More research is needed to investigate these ideas and to evaluate the ability of such programs to promote healthy parent-child attachment relationships.

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