

Older sibling's influence on drug use



- Kendall Keefe

University of Minnesota

Annotated Bibliography

Bierut, L., Strickland, J., Thomson, J., Afful, S., & Cottler, L. (2008). Drug use and dependence in cocaine dependent subjects, community-based individuals, and their siblings. *Drug and Alcohol Dependence, 95(1)*, 14-22. doi: 10.1016/j.drugalcdep.2007.11.023

This study matched cocaine users in treatment and their siblings to members of the community and their siblings to see the difference between these two populations. The two groups were matched as close as possible in age, gender, race, and zip code. With this design, the researchers wished to uncover the genetic and environmental components to drug and alcohol addiction. Specifically, they wanted to look at life-time prevalence rates, how those addicted to cocaine differed from other members of the community, and how those addicted to cocaine differed from their siblings.

In comparison with the community, cocaine users had higher prevalence rates of cocaine and other substances. Only male community-based subjects had higher rates of alcohol usage. Siblings of cocaine users surpassed the siblings of community-based subjects in usage as well. This may have some relation to access of these substances, as well as a higher life-time prevalence of drug abuse in families with someone who is addicted to cocaine.

As all subjects were matched based on location, cocaine users came from a population, or neighborhood, of high usage. This is shown in the rates of substance use and abuse in the community-based subjects. Though they had higher rates, the community on a whole abused drugs at higher rates than some other populations.

Bricker, J., Peterson, A., Leroux, B., Andersen, M., Rajan, B., Sarason, I. (2005). Prospective prediction of children's smoking transitions: role of parents' and older siblings' smoking. *Addiction, 101: 1*, 128-136. doi: 10.1111/j.1360-0443.2005.01297

Using a longitudinal study, the authors explored the effects and role of a smoking parent or older sibling. Specifically, they wished to see if their behavior could prospectively predict whether or not the child would smoke. Their key idea focused on the transmission of behavior from one individual to another. It is important to note that 92 percent of these families are white, all coming from the state of Washington.

Beginning with 3rd grade students, the smoking habits of their family members were collected through a survey. This was used as their baseline. Throughout the students' life, up until 12th grade, they were asked about their own smoking habits. The assigned three different transition points: 1) never smoked to tried first cigarette, 2) tried first cigarette to smoking monthly, 3) smoking monthly to daily.

Their results found that if a parent smoked, there was a 32 percent chance that the child would make transition 1, or try smoking, 15 percent chance of that child making transition 2, or smoking monthly, and 28 percent chance of

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smoking daily, or transition 3. For children with an older sibling who smoked, they found 29 percent chance for transition one, 0 percent chance of transition 2, and 20 percent chance of transition 3. These results show the social influence parents and older siblings can have on a child. It may also suggest possible genetic links.

Brook, J., Whiteman, M., Gordon, A., & Brenden C. (1983). Older brother's influence on younger sibling's drug use. *The Journal of Psychology: Interdisciplinary and Applied* , 114: 1 , . doi: 10. 1080/00223980. 1983. 9915400

In this study, the authors wanted to look closely at how an older brother can impact a younger sibling's attitudes and behavior surrounding drugs and alcohol. At the same time, they also wished to look at the influence of their peers. Similar studies often look at drug usage in parents to determine the effects on the child, and this study wished to take a different perspective. They hypothesized that younger, male siblings would be more strongly influenced by their older brother's habits than older or female siblings.

Their sample came from 9th and 10th grade students in the United States who had older brothers. Using a close ended questionnaire, they used a sibling measure and peer measure. In the sibling measure, they focused on use of marijuana by the older sibling, if there are other siblings in the family, and how closely they identified with their older brother. The peer measure looked at how much time is spent with friends and whether or not they are classified as deviant, warmth/negativity felt from their peers, and drug usage among peers. The older brother and peers are not surveyed. They found

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correlation between risk for high drug use and peers or older brother's with high drug use. This supports a model that both their older brother and peers directly influenced drug use.

Donovan. (2011). The "younger-sibling-at-risk design": A pilot study of adolescents with adhd and an older sibling with substance use disorder. *The American journal of drug and alcohol abuse*, 37(4), 235-239. doi: 10.3109/00952990.2011.569805

This study looked at a particular, yet prevalent family structure. An older child, an adolescent, who has been diagnosed with a substance use disorder (SUD) and a younger child who has been diagnosed with attention deficit hyperactivity disorder (ADHD). Donovan chose ADHD as the risk factor based on how it develops early in childhood and marks later risk for substance use and conduct issues. The author hypothesized that there could be a transitional period around ages 12-16 where a child with ADHD could be diagnosed with a SUD as well.

Thirteen sibling pairs were screened and participated in the study. The younger sibling in each pair received a dosage of *lisdexamfetamine dimesylate (LDX)* and came into the clinic for weekly assessments for three weeks. They also surveyed the child's exposure to drugs and alcohol.

Donovan found that some children had begun to experiment with drugs or alcohol, others had awareness of it, and some showed no experience at all. Through the recruitment for this study, the author found that such relationships do exist. There are many sibling pairs where the elder child uses substances while the younger has an ADHD diagnosis. The results of <https://assignbuster.com/older-siblings-influence-on-drug-use/>

this study do not particularly show anything, but highlight the risk factors within families for substance abuse.

Kendler KS, Sundquist K, Ohlsson H, et al. (2012). Genetic and Familial Environmental Influences on the Risk for Drug Abuse: A National Swedish Adoption Study . *Arch Gen Psychiatry*, 69(7) , 690-697. doi: 10.1001/archgenpsychiatry. 2011. 2112

In this national, Swedish study the authors wanted to study how environmental and genetic factors influence drug abuse. Through the use of the national census, they collected information on children adopted into families. Because they are collecting already existing information, that makes this study quasi-experimental. There can be limitations to this, since it cannot look at direct or causal relationships.

The authors began collecting information from the 1950 census, and included up to 1993. In total, they studied 18, 115 children who had been adopted in Sweden. Drug abuse was measured through Swedish registries, such as hospitals or outpatient facilities. Additionally, they tracked criminal records and crimes related to drugs. They also included other factors such as education and socioeconomic status attained by the adoptive and biological parents. To score for genetic risk, they looked at the behaviors of their biological parent or sibling. Similarly, they accounted for the behaviors of their adoptive family to score for an environmental risk value.

Their results showed that with a biological parent who abused drug doubled the child's risk (4. 2 percent qualified for drug abuse in national population compared to 8. 6 percent when a biological parent abused drugs). An even

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higher risk existed when a biological sibling abused drugs (10.7 percent). When the adoptive parent abused drugs, their risk was slightly higher (6.8 percent). Children at high genetic risk for drug abuse were more strongly affected by negative environmental effects. This provides evidence that an interaction between genes and environment can create higher or lower vulnerability for drug abuse.

Older Sibling's Influence on Substance Use

The etiology of drug or alcohol abuse involves an interplay of environmental and genetic factors. In family research, heavy emphasis is put on the parent whether biological or adopted. There is more to a family than the relationship between parent and child. To provide a richer canvas, it is essential to look at the whole family system. Specifically this paper will look at older siblings as an influencing factor. All members of the family interact together, and a younger child can often look up to their older sibling. Habits and behaviors can be transferred between siblings (Brook, Whiteman, Gordon, & Brendan, 1983). Those interactions can be an additive risk factor on top of existing genetic risk.

According to Bricker et al. (2005), a large amount of social contact in a child's life can come from a parent or older sibling. In the same vein, these are the people a child models their behavior after. In families that smoke, a child is more likely to try smoking if their older sibling does. This can also encourage that child to continue to smoke, since it is an acceptable habit to have. Although they are taught in school not to smoke, if a child goes home and is exposed to such, they may not believe that rule applies to them. A

child who looks up to their older sibling, or identifies with that sibling, tends to share the same views on drug use. Younger siblings tended to report higher drug use when they knew about their older siblings drug use. This modeling effect also works the opposite way. In younger siblings who have an older sibling who does not use drugs are more likely to also abstain. In other words, a child will obey a rule if they see others doing the same (Brook, Whiteman, Gordon, & Brenden, 1983).

For many children, they are introduced to substances such as alcohol or nicotine by their siblings. Just like a peer, siblings can have a high social influence on a child. Having a sibling who smokes significantly increases the chances that the child will, at the very least, try smoking. A parent who smokes can also be an influence on a child's smoking behavior, and in some ways can be just as strong of an effect as a sibling (Bricker, et al., 2005).

More often, passed on genes is also a strong indicator of whether a child will become addicted to alcohol, nicotine, or an illicit substance (Kendler et al., 2012).

In families with a history of substance use disorders, more than one child can be affected. In a pilot study, Donovan (2011) examined older siblings as a risk factor for a younger sibling with a diagnosis of attention deficit hyperactivity disorder (ADHD). With this disorder, a child typically struggles with self-regulation and impulsivity. This is similar to the deficits in executive function and control seen in a substance use disorder. The older sibling struggling with chemical dependency can be a predictor for the younger child to experience the same. This can still be a permeable effect even while the child is not living with their biological family. Children adopted into

families are still influenced by their genetics. In a biological family with high rates of substance abuse, children are more susceptible to adverse environmental effects. Those effects do not go away when in an adopted family, they are still sensitive to environmental risks (Kendler et al., 2012). When studying individuals addicted to cocaine, Bricker et al. (2005) found that their siblings were at high risk for using other substances including cocaine. This complicates the environmental picture, since there is not a direct link between the siblings since they are not using the same substance. However, it does provide a clear example of genetic risk. They are clustered around a group of substances. These families have a higher life-time prevalence for drug abuse.

An individual dependent on one illicit substance often will be a poly-substance user, meaning they use more than one substance. While one sibling is dependent, often their other siblings and family members use some of the same types of substances. More commonly, this includes alcohol, nicotine, and marijuana (Bierut et al., 2008). Compared to the community, Bierut et al. (2008) found that the sibling of someone dependent on cocaine had much higher substance use in general compared to the average population. This suggests that a family can aggregate high levels of drug use and dependence. Both genetics and environmental variables play a role in this. With a parent who abuses drugs, their biological child is at about twice the risk for developing a dependency (Kendler et al., 2012). While a child with that biological risk who is raised by adoptive parents with no history of drug abuse will have a slightly lower risk. That child will still be at risk for potentially abusing drugs, but faces far less environmental factors. It is

similar to a scale, and adding up individual risk factors will eventually tip them over the threshold for experiencing heavy substance use or abuse.

As most research suggest, disentangling genetics and environmental effects is a difficult task. Bricker et al. (2005) considered that a parent who smokes may have genetic risk factors that lead their children to smoke. With this trait, a younger sibling may be more influenced to smoke because they have a strong predisposition to do so. Bierut et al. (2008) found strong evidence to also support this idea. When looking at individuals with substance use disorders, most have a family history. Individuals with these disorders tend to have a strong background in substance abuse. In many cases, it can be someone in their immediate family. It is important to consider the development of substance use. First, they must have access to the substance and desire to use it. As discussed in Brook, Whiteman, Gordon, & Brenden (1983), siblings can be a point of entry. Once past that point, there are a number of possible ways to become dependent. Making that transition into having a dependency can be influenced by genes, along with conditions of the environment.

As these studies have shown, there are many reasons and causes for drug abuse, whether it be predisposition or additive risk factors. One relationship in particular can act as a predictor, and that is siblings. If a biologically related older sibling is using illicit substances, the likelihood of their younger sibling doing the same is increased (Donovan, 2011). This can be due to molding effects (Brook, Whiteman, Gordon, & Breden, 1983), genetic risk factors (Kendler et al., 2012), or a mix of environment and predisposition (Bierut et al., 2008). This mix of genes and family environment can be

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protective or risk factors, all depending on the individual's situation. It is important to consider the multitude of factors that can be influencing a young child to use illicit substances. Though there may not be a precise intervention treatment for children at risk, their family can be a great source of information and assistance while in treatment. Through examination of their upbringing and family background, patterns can be traced back to where the abuse of the substance started. This can be helpful for clinicians to more accurately understand their clients.

References

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