



January 2001/  
Rev. December 2001

Vol. 1, Issue 6

Federal Emergency  
Management Agency  
United States Fire  
Administration  
National Fire Data Center  
Emmitsburg, Maryland  
21727

### OTHER RESEARCH TOPICS OF INTEREST

*Child Fire Casualties*, Vol. 1,  
Issue 17, March 2001

*Christmas/Christmas Tree  
Fires*, Vol. 1, Issue 4,  
November 2000

*Older Adults and Fire*, Vol.  
1, Issue 5, January 2001

*Heating Fires in Residential  
Structures*, Vol. 1, Issue 9,  
January 2001

*Portable Heating Fires in  
Residential Structures*, Vol.  
1, Issue 10, January 2001

*Candle Fires in Residential  
Structures*, Vol. 1, Issue 12,  
February 2001

*Winter Residential Fires*,  
Vol. 1, Issue 13, February  
2001

To request additional infor-  
mation, or to comment on  
this paper, visit

[http://www.usfa.fema.gov/  
feedback/](http://www.usfa.fema.gov/feedback/)

## Children and Fire

### FINDINGS

- Nearly 250,000 fires in 1993 were thought to have been set by juveniles (<19 years of age).
- The bedroom is the area of the home where most juvenile-set fires originate, and matches are the most prevalent ignition sources.
- Juvenile arson is increasing—53% of all arson files are started by children under 18.
- Categories of juvenile firesetters:
  - Up to age 8 - curious/accidental firesetters
  - 8-12 - intentional firesetters
  - 13-18 - crisis firesetters (those with a long history of fireplay; motivated by psychosocial conflict or intentional criminal behavior)
  - 15-18 - a small minority of firesetters who are severely disturbed, often with criminal backgrounds

According to the Federal Bureau of Investigation, 53 percent of arrests for arson are children under the age of 18. Approximately one-third are under the age of 15. Despite decreases in other indicators of juvenile violent crime (e.g., murder, aggravated assault), the incidence of juvenile arson is on the rise.<sup>1</sup>

Children are naturally curious about fire; some studies suggest that interest in fire develops even before age 3.<sup>2</sup> However, whether a child actually sets fires depends on a variety of factors, including their exposure to fire and the availability of fire supplies. Although some children who set fires are unaware of the potentially tragic consequences of their actions and are simply curious, others are fully aware of the ramifications of their

actions and purposely intend to cause damage or attract attention.

Regardless of the motivations underlying juvenile firesetting, it is a widespread problem that affects not only those children and their families, but also all of society. A report by the U.S. Fire Administration (USFA) suggests that if unreported fires and fires where children are suspected, but not charged, with arson were taken into account, nearly 250,000 fires were attributed to juveniles in 1993.<sup>3</sup>

Juvenile firesetters can be classified in several ways. The U.S. Department of Justice's Office of Juvenile Delinquency and Prevention (OJDP) divides juvenile firesetters into three groups. The first, "curiosity firesetters," consists of children under the age of 8 who

generally start fires accidentally or out of curiosity. The second group, “intentional firesetters,” includes children between 8 and 12 years of age who, although sometimes motivated by curiosity, are more often driven by underlying psychosocial conflict. Finally, the third group, “crisis firesetters,” consists of adolescents between 13 and 18 years of age who tend to have a long history of undetected fireplay and fire-starting behavior and are often motivated by psychosocial conflict or intentional criminal behavior.<sup>4</sup> Sometimes, a fourth group, teenagers 15 to 18 years old, is considered. This group represents the minority of juvenile arsonists and is comprised of juveniles who are generally severely disturbed and have a significant history involving the criminal justice system.<sup>5</sup>

The USFA classifies juvenile firesetters in a slightly different manner. (Children who start fires out of curiosity are not included.) Intentional firesetters tend to fall into three basic categories. The first group includes those setting fires as a call for help or attention; the second, juveniles motivated through delinquent activity (usually carried out in groups, often arbitrarily); and the third, those with severe emotional disturbances. Regardless of which classification method is used, the older the child, the more destructive the fire tends to be. As children get older and more experienced with fire-starting materials, they experiment with more sophisticated materials such as solvents and other accelerants.<sup>6</sup> If one or more of the parents smokes, matches or lighters are readily available in the home. A child in a home with a smoker is twice as likely to be involved with fireplay as a child in a home with a non-smoker.<sup>7</sup>

Data from the National Fire Incident Reporting System (NFIRS),

averaged over a 3-year period 1996–98, show that per-fire injuries due to children playing in residences are more than double those in all residential structures, and fatalities are a third higher (Figure 1).

Despite federal regulations mandating child-resistant safety features, such features can be

defeated by determined, curious children as well as by those intent on deliberately starting a fire. Also, when parents carelessly leave lighters and matches on tables and counters and haphazardly play with lighters, they are unknowingly sending mixed messages to youngsters as to the dangers of fire.

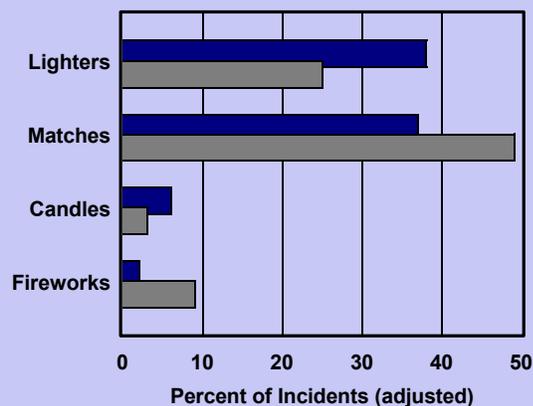
**Figure 1. Loss Measures in Residential Structures**  
(1996-98 average from NFIRS)

MEASURE	ALL RESIDENTIAL FIRES	CHILDREN PLAYING FIRES
Dollar Loss/Fire	\$11,271	\$12,246
Injuries/1,000 Fires	48.0	116.8
Fatalities/1,000 Fires	7.7	10.1

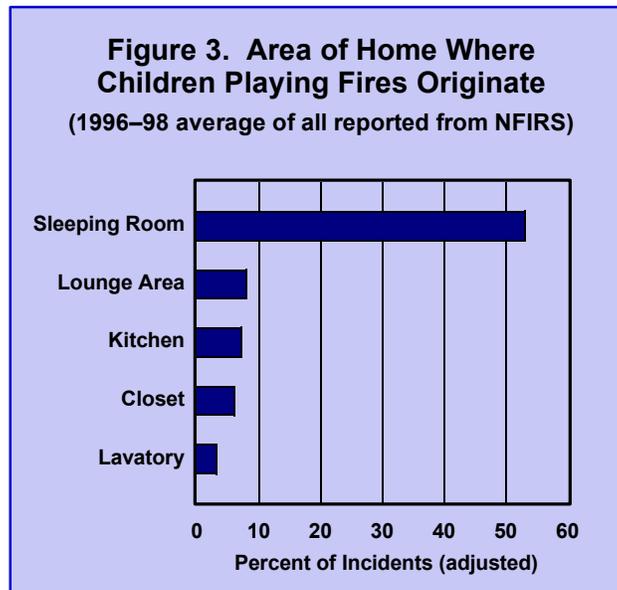
NFIRS data show that matches are the most prevalent ignition source in all children playing fires (Figure 2). Child psychologists and other professionals who work with juvenile firesetters, however, are divided as to whether or not matches are actually children’s “fire source of choice.”<sup>8</sup> NFIRS data indicate that lighters play a nearly equal role in residential child play fires, and some studies show that lighters tend to be the preferred ignition source.<sup>9</sup>

When children set fires in the home, the most common area of fire origin is the bedroom, and the material ignited is often bedding or mattresses (Figure 3).<sup>10</sup> A tragic example of this occurred in November 2000. Two 3-year olds were apparently playing with a lighter when they ignited a fire in the back bedroom of their trailer home. One of the children and his aunt were killed in the ensuing fire.<sup>11</sup>

**Figure 2. Leading Ignition Sources—Children Playing**  
(1996–98 average from NFIRS)



As children get older, they tend to direct their firesetting away from their homes and toward locations such as garbage dumpsters, barns, vacant buildings, grasslands, automobiles, and schools. The location where a fire is started often is influenced by the factors motivating the child. For example, juveniles attempting to bring attention to difficult family circumstances are more likely to target occupied structures (such as their homes or schools), while gang-related and revenge fires are more likely to occur in abandoned buildings.<sup>12</sup> Overall, the materials most commonly ignited by children playing with fire are growing matter (brush and grass) and trash.



Juvenile firesetters tend to exhibit a range of psychosocial, behavioral, conduct, and aggression problems. These include playing

with matches or lighters, burning items, cruelty to animals, and extreme curiosity about fire. Coupled with circumstance, the

availability of lighters or matches, and a misunderstanding of fire's consequences, the potential for juvenile firesetting is high.

To review the detailed methodology used in this analysis, click [METHODOLOGY](#)

### Footnotes

1. *Juvenile Offenders and Victims 1999 National Report*, Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice, 1999.
2. Kolko, D. J. and Kazdin, A. E., "A Conceptualization of Firesetting in Children and Adolescents." *Journal of Abnormal Child Psychology*, 14, (1), 49-61, 1999.
3. *Arson and Juveniles: Responding to the Violence*, U.S. Fire Administration, Federal Emergency Management Agency, 1996.
4. *Juvenile Firesetting and Arson*, U.S. Department of Justice, Office of Justice Programs, Office of Juvenile Delinquency and Prevention, 1997.
5. Little, Peggy, "Juveniles & Arson," *The Reporter*, Summer 1998.
6. *Arson and Juveniles*, loc. cit.
7. Porth, Don. "Children with Fire," *SOS Fires: Youth Intervention Project*, October 1997.
8. *Product Safety Issues: Juvenile Firesetter Intervention Project*, TriData Corporation, March 2000.
9. Foerger, R. H., *Lighters: The Fire Source of Choice*, Public Safety and Education Branch, Edmonton Emergency Response Department, May 1999.
10. NFIRS 1998 data.
11. Dailey, Sean, "Child Playing With Lighter Suspected in Fire," *State Journal-Register*, November 10, 2000.
12. "Juvenile Firesetting and Arson," United States Department of Justice, Office of Justice Programs, Office of Juvenile Delinquency and Prevention, 1997.