

U.S. Fire Administration TOPICAL FIRE RESEARCH SERIES

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Child Fire Casualties

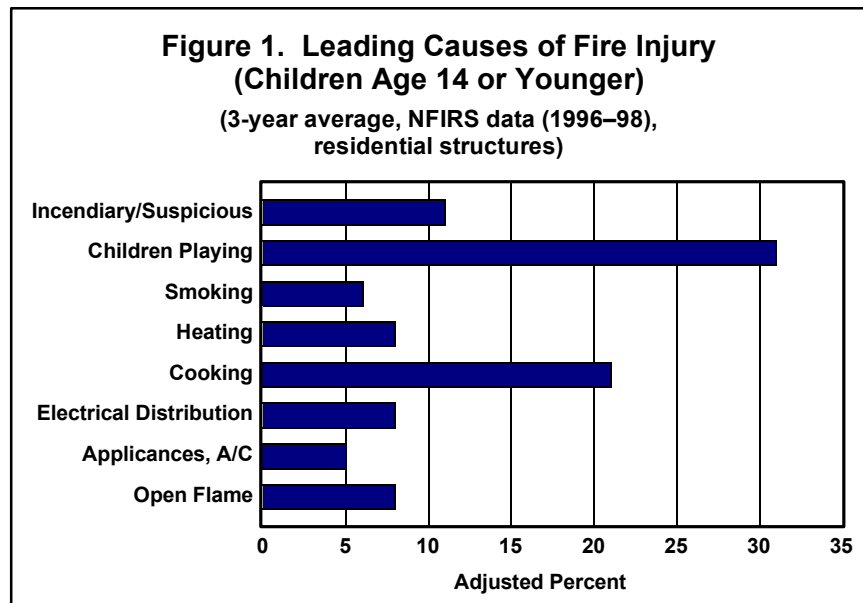
FINDINGS

- Fires and related burns are the third leading cause of unintentional injuries to children.
- Each year, an average of 3,650 children age 14 or younger are injured or killed in residential fires. Forty percent of these casualties are under the age of five.
- Children playing fires are the leading cause of child fire casualties. The younger the child, the more likely child play was involved in the start of the fire. In short, when children play with fire, they tend to hurt or kill themselves.
- Mattresses, bedding, clothing not being worn, curtains, and other “soft goods” are the primary materials first ignited in fires that result in child casualties.

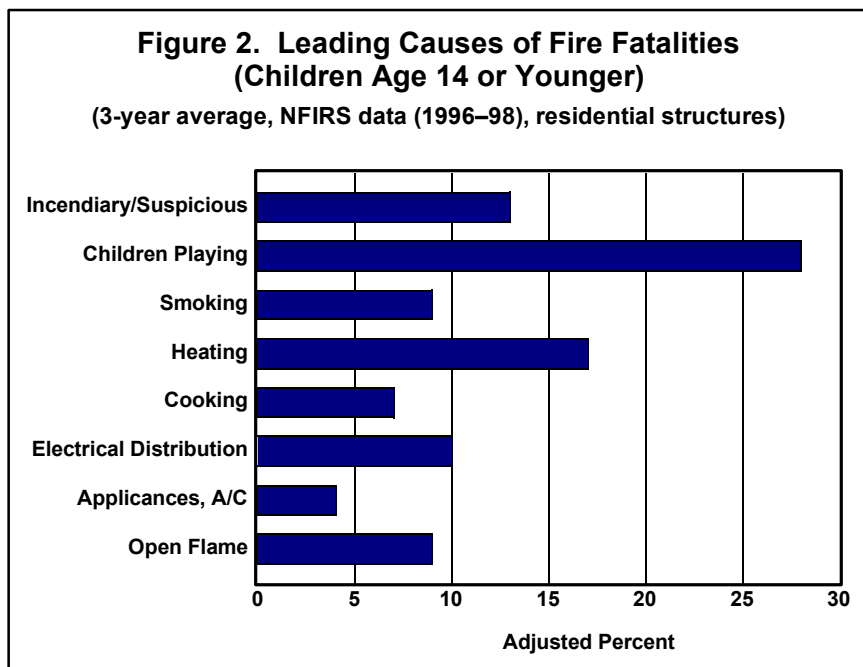
Unintentional injuries are the leading cause of death for children from 1 to 21 years of age. Fire and related burns are the third leading cause of these unintentional injuries.¹ Each year in the United States an estimated 2,800 children age 14 or younger are injured and 850 killed in residential fires. Of these children, over 40 percent are under the age five, 70 percent are under the age of 10.²

CAUSES OF CHILD FIRE CASUALTIES IN THE HOME

For adults, the leading cause of fire-related injuries in the home is cooking. For children, however, the leading cause is children playing. See Figure 1.



As shown in Figure 2, children playing is also the leading cause of child fire fatalities in residential structures, followed by heating and incendiary/suspicious (arson). In adults, the leading cause of fire death is smoking, followed by heating and arson. In short, when children play with fire, they tend to hurt or kill themselves.



WHAT ARE CHILDREN DOING PRIOR TO BEING INJURED?

Figure 3 illustrates the leading conditions of child casualties prior to their injury. Approximately 64 percent of children who are killed by fire in residential structures are asleep at the time the fire ignites. Twenty-two percent are classified as “too young to act,” which implies that the child did not understand what was happening around him or her and probably did not take meaningful action to escape the fire.

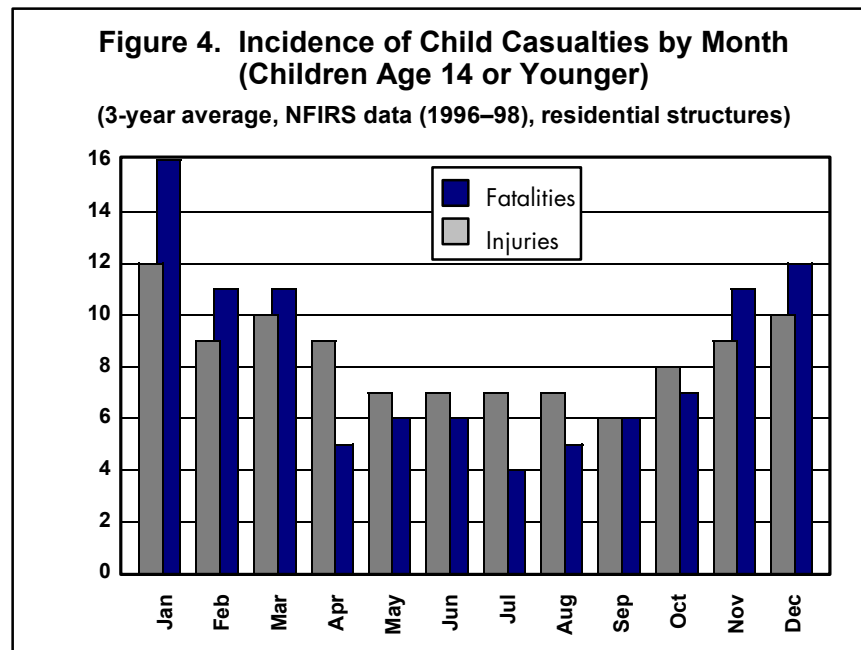
Figure 3. Leading Conditions Prior To Injury (Children Age 14 or Younger) (3-year average, NFIRS data (1996–98), residential structures)		
ACTIVITY	PERCENT OF CHILD INJURIES	PERCENT OF CHILD FATALITIES
Asleep	40	64
Too young to act	15	22
Awake	43	12

WHAT GETS IGNITED?

In one-quarter of fires involving child casualties (injuries and fatalities), the leading materials ignited are soft goods (including mattresses, bedding, clothing, curtains, and other fabric). Cooking materials are ignited in 11 percent and upholstered furniture is infueled 8 percent of the time.

TIME OF YEAR

As shown in Figure 4, similar to the trends seen in adult fire casualties, peak months for child casualties are December and January. These increases are consistent with general trends, where winter sees an increase in structural fires, many of which are caused by heating. As expected, during the winter months there are an increased number of child casualties attributed to heating fires. In fact, during January and February heating rivals children playing for the leading cause of child fire fatalities. Also, for child injuries during June and July, open flame is the leading cause of child injuries. This may be due to the increased use of outdoor barbecues and fireworks during this time.



AGE

As shown in Figure 5, the younger the child, the higher the likelihood they will die in a fire caused by children playing with fire starting materials. This may be due to the fact that younger children are less likely to play with fire themselves; rather, perhaps they are caught in fires started by older relatives or other causes, or that at younger ages, casualties tend to be fatalities rather than injuries as they may be more vulnerable to the effects of fire.

Figure 5. Children Injured/Killed in Children Playing Fires

(3-year average, NFIRS data (1996–98),
adjusted percentages, residential structures)

AGE OF CHILD	PERCENT OF CHILDREN INJURED IN CHILDREN PLAYING FIRES	PERCENT OF CHILDREN KILLED IN CHILDREN PLAYING FIRES
1–4	44	70
5–9	32	25
10–14	24	6

EXAMPLES

Nearly everyday newspaper headlines tell of tragic fires which kill or injure children. The following are a few recent examples:

- In January 2001, a space heater ignited an early morning fire that killed a 9-year-old girl and seriously burned her father, who attempted to rescue her. There were no working smoke alarms in the home.³
- In March 2000, two boys were playing with matches and hairspray when the hair-spray ignited, seriously burning one of them. Though the uninjured child's mother claimed it was an accident, the boy was charged with aggravated assault.⁴
- In December 2000, four children and a woman were killed in a fire ignited by a faulty furnace.⁵
- Also in December 2000, a fire ignited by an overloaded electrical circuit killed a three-month old sleeping in his crib. Several adults and another infant were able to escape the 12:20 am fire, however, the baby was apparently trapped in the room where the fire originated.⁶
- Again, in December 2000, a fire started by her older brother playing with matches killed a two-year old girl. The boy was 3 years old.⁷

CONCLUSION

Fires involving children are tragic and often preventable. For more information on the relationship between children and fire, see *Children and Fire in the United States: 1994–1997*, United States Fire Administration, Federal Emergency Management Agency. For information on how to prevent children you know from becoming victims of fire, contact the USFA or your local fire department.

NOTES

1. *Childhood Injury Fact Sheet*, Centers for Disease Control and Prevention, National Center for Injury Prevention and control, December 2000.
2. National estimates are based on 1996–1998 data from the National Fire Incident Reporting System and the National Fire Protection Association’s annual survey, *Fire Loss in the United States*.
3. Roedi, Ken. “House Fire Takes Life of 9-year-old Girl,” *Montgomery Advertiser*, January 2, 2001.
4. Streeter, Kurt. “Mother Says Incident of Child Set on Fire was an ‘Accident,’” *The Baltimore Sun*, March 9, 2000.
5. “Five Die in Trailer Fire in NY,” *The Associated Press*, December 16, 2000.
6. Klein, Rick. “Infant Dies, Another Hurt in R.I. Fire,” *The Boston Globe*, December 15, 2000.
7. Lafferty, Mike. “Boy Started Fatal Fire,” *The Columbus Dispatch*, December 15, 2000.

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