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Juvenile Firesetting: A Research Overview

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The consequences of juvenile firesetting can be tragic and costly. In a typical year, fires set by children and youth claim the lives of approximately 300 people and destroy more than $300 million worth of property. Children are the predominant victims of these fires, accounting for 85 of every 100 lives lost (U.S. Fire Administration, 1997, 2004).

A thorough understanding of juvenile firesetting—including why children and youth set fires—is key to curbing this destructive behavior. By examining research literature on juvenile firesetting and making recommendations for further research, this Bulletin offers an overview of the terms and theoretical formulations common to juvenile firesetting studies and identifies ways to enhance future research.

Background

In 2002, the National Association of State Fire Marshals (NASFM) contracted Justiceworks at the University of New Hampshire to develop a research agenda that would advance an understanding of the mechanics and dynamics of child and adolescent firesetting behavior. NASFM expressed particular interest in developing applied research initiatives that would help working professionals address firesetting behavior. NASFM charged Justiceworks with the following project goals. First, review the existing research literature on juvenile firesetting behavior and offer a distillation of that literature. Second, convene a conference of researchers and fire, justice, and clinical professionals to provide a forum for constructive discussion about existing and future research. Third, deliver a report to NASFM in April 2003 outlining pressing areas of new research that would directly benefit the professional community.

A Justiceworks research team reviewed the existing social science literature to identify thematic elements of current firesetting knowledge. In addition, research and professional colleagues in the field were consulted to identify a wide range of research. A compendium of the research literature covering approximately the past 30 years was assembled in a 2-month period. The project's principal investigators reviewed the assembled literature, sorting out its thematic elements, strengths, and weaknesses from theoretical and applied perspectives.

A conference of 14 researchers and professionals from the fire, justice, and clinical communities was held in February 2003 at the University of New Hampshire to promote a broad discussion of the existing research as it relates to the immediate needs of the various professional

A Message From OJJDP

In the hands of children, fire can be a destructive force. Each year, fires set by youth claim hundreds of lives and destroy millions of dollars' worth of property.

By understanding how and why juveniles set fires, professionals and policymakers can make informed decisions about how best to address this harmful behavior.

In 2002, the National Association of State Fire Marshals (NASFM) began developing applied research initiatives to help professionals curtail juvenile firesetting. The project included a review of the research literature, a conference of researchers and professionals involved in preventing juvenile firesetting, and a final report, upon which this Bulletin is based.

Drawing on information gathered by the NASFM project, *Juvenile Firesetting: A Research Overview* outlines existing research and theories related to juvenile firesetting and identifies limitations of the existing research. It also recommends strategies for curbing juvenile firesetting, such as conducting a national juvenile firesetting survey, constructing a firesetting classification system, and identifying and evaluating promising intervention and treatment programs.

Combating a problem as serious and persistent as juvenile firesetting requires the aid of the research community. Using sound research, the field can better understand the dynamics of juvenile firesetting, determine the types of juveniles involved, and establish best practices to protect children and families from fires set by youth.

communities. Conference topics included the link between juvenile firesetting behavior and aggression and the existing firesetting literature. Discussions focused on feedback from the fire, justice, and clinical professionals. The final two sessions of the conference were devoted to identifying new research directions. Using a group technique to ensure participation by all conferees, a set of research questions was designated for consideration by NASFM.

Finally, Justiceworks helped identify areas in the field of juvenile firesetting in need of additional research. The contributions of conference participants were analyzed and compared with existing gaps in the empirical literature to identify those areas.

This Bulletin is the product of the work conducted by NASFM and Justiceworks. It provides a structure to frame existing research and theoretical formulations of juvenile firesetting behavior, identifies gaps in current knowledge about juvenile firesetting, and proposes a set of empirical questions most crucial to the professional communities for researchers to address.

Firesetting Literature: Terms and Concepts

Charting new directions in the firesetting research requires establishing a baseline of existing knowledge culled from empirically based literature. Before doing so, it is helpful to define terms and concepts that commonly appear in the juvenile firesetting literature.

A review of the research reveals an apparent distinction between fireplay and firesetting behavior. Both behaviors may produce varying degrees of damage and injury, but they differ in their levels of intent and malice. Fireplay is often used to convey a low level of intent to inflict harm and an absence of malice. Especially among children and adolescents, fireplay involves elements of curiosity and fascination. Fireplay damages are viewed as collateral and not maliciously inspired.

Firesetting is decidedly different. Although the degree of malice may vary in firesetting behavior, the level of intent is higher than in fireplay. Juvenile firesetters are viewed as willful actors who consistently use fire as an instrument of purposeful action. Moreover, the literature suggests that firesetting may be more conducive to repetition and chronic behavior than fireplay.

The clear implication is that firesetting behavior is a greater threat to public safety than fireplay. At the same time, more juveniles may engage in fireplay than in firesetting behavior. (The literature also makes a distinction between "fire interest" and "fire involvement." Fire interest suggests a generalized preoccupation with fire but an absence of direct participation with fire. In contrast, fire involvement suggests fire activity that could include both fireplay and firesetting.)

The literature also distinguishes between child and adolescent firesetting. This is an important thematic element that defines current thinking and responses to fireplay and firesetting behavior. Child firesetting is restricted to children age 12 or younger. Adolescent firesetting includes those 13 years old to the age of majority, which varies by state. This distinction arises from the impact of development and maturation on behavior. As children mature, society holds them increasingly responsible for their behavior. Responses to delinquent behavior among the very young differ markedly from responses to offenses committed by those in their mid-teens. Moreover, adults receive different treatment in the criminal justice system than juveniles. Such developmentally based considerations may explain why firesetting research is generally oriented toward treatment rather than punishment. Because of their age, even the most hardened of juveniles may be perceived as less culpable for their actions and more amenable to treatment than adults. These age-based distinctions are implicit in the terms "firesetter" and "arsonist."

The literature suggests that the use of fire by juveniles may indicate that fire can be both an instrument of power and serve as a weapon, as opposed to merely being a product of curiosity (Cox-Jones et al., 1990; Karchmer, 1982; Sakheim and Osborn, 1986; Swaffer and Hollin, 1995). Children's status in society and their developmental maturity place them in less powerful positions than adults. For example, the ability to legally drink alcohol, use tobacco, drive a motor vehicle, and vote is determined by age. Although access to firearms and other weapons is restricted, matches and lighters are relatively accessible to youth inclined to act in harmful ways. In the hands of an errant, reckless, or careless youth, a pack of matches can be a formidable weapon used to act out expressive or instrumental behaviors.

The concept of expressive and instrumental behavior addresses motivations of firesetting. Expressive firesetting behavior suggests that the behavior is an expression of psychopathology or unresolved trauma. In contrast, instrumental firesetting suggests that the fire was set to achieve an established goal. These terms are used more frequently in discussions of firesetting than fireplay because fireplay often involves lesser degrees of intent and malice. The distinction between expressive and instrumental firesetting behaviors has implications for treatment and intervention strategies and reflects a general focus on the medical rather than the criminal models in the firesetting literature. Most likely, considerable overlap exists between expressive and instrumental behavior. The juvenile firesetting literature, however, tends to focus on expressive elements even in instrumental firesetting behavior.

Finally, the literature contains implicit references to external and internal origins of firesetting behavior. External origins include social and cultural influences that promote the use of fire by juveniles. Certain elements of a juvenile's experiential world may encourage or otherwise abet fire usage. These elements may involve family dynamics, peer reinforcement, or representations in the media of the use and effects of fire. Such influences may encourage constructive and destructive fire usage, as youth can be taught and encouraged to use fire safely or recklessly. Internal origins point to something within the firesetter, biochemically, neurologically, or psychologically, that compels him or her to use fire. The table on page 3 illustrates the salient thematic emphases in the literature.

In many instances, these thematic emphases overlap in the literature, providing a matrix of possibilities to address juvenile behavior involving fire. Fireplay, for example, can be a behavior engaged in by an adolescent out of curiosity to see if the lighting of an improvised bonfire will impress a prospective girlfriend, since he had seen such a ruse work in a teen film he recently saw. Similarly, an 8-year-old victim of sexual abuse by a relative may intentionally set her own bed on fire as a catharsis, or call for help, and as an exercise of control over a situation in which she feels powerless.

Dichotomous Thematic Emphases

Thematic Emphasis	Dichotomy
Intent	Fireplay/firesetting
Age	Child/adolescent
Vehicle	Curiosity/power (weapon)
Motivation	Expressive/instrumental
Origin	Environmental/individualistic

Literature Review: Research and Theory

Juvenile firesetting literature can be classified under four broad headings: measurement, typologies, etiology, and intervention, control, and treatment. Any effort to impose a structure on the scientific literature presents certain challenges. Other strategies for structuring information exist, and categories of research are not mutually exclusive of one another. A single piece of research is apt to fall under more than one heading. Nevertheless, offering a framework that incorporates broad and prevailing thematic elements can help order wide-ranging research efforts.

Measurement

Most firesetting research strategies involve convenience samples, i.e., they use study subjects that are readily available or easily identifiable. In the case of juvenile firesetters, many studies involve samples drawn from known firesetters who have been identified through official agencies, such as the fire, law enforcement, or clinical communities, as having engaged in fire-related behavior. Although studies using convenience samples can produce useful knowledge, study findings may not accurately capture and reflect the characteristics of all firesetting behavior or the traits of the entire population of firesetters. For example, one should not draw generalized conclusions about juvenile delinquency from studies that use only juveniles in custody at a detention facility as significant delinquent behavior may be committed by juveniles who are never committed or detained. Similarly, a significant representation of juvenile firesetting behavior may be unmeasured in studies that rely on convenience samples only, thereby compromising the comprehensiveness and reliability of their findings. Moreover, convenience samples are not large enough to ensure stable characteristics for an entire population. For example, if detained firesetters are selected as a sample of the total firesetter population, other types of firesetters, such as those not caught or detained, are excluded. Notable exceptions to this methodological problem exist, and their findings can be viewed with greater confidence.[1]

Useful applications of convenience samples in the existing literature typically involve within-group comparisons. By noting a sample's limitations, comparisons can be made based on differences in event or individual characteristics. Some studies (Kolko and Kazdin, 1986; Sakheim and Osborn, 1986, 1999), for example, parse out differences in personality traits among certain types of firesetters. Other studies make comparisons of sample subjects by age of onset or recurrence (Kolko and Kazdin, 1986; Kolko, 1992; Bradford and Dimock, 1986; Cox-Jones et al., 1990). Still others may differentiate by firesetting event characteristics (Bumpass, Fagelman, and Brix, 1983; Karchmer, 1982; Swaffer and Hollin, 1995). All of these methods are useful in identifying salient differences within a convenience sample.

Finally, some minor attempts have been made to assess the prevalence and incidence of juvenile firesetting behavior (Webb et al., 1990; Franklin et al., 2002; Raines and Foy, 1994; Kazdin, 1986; Slavkin, 2001). In most instances, these studies are confined to local rather than national estimates. Importantly, some studies indicate that perhaps only 40 percent of juvenile firesetting behavior is reported. Of course, the true incidence and prevalence of fireplay behavior among juveniles is unmeasured. ("Incidence" refers to the number of new cases occurring during a given time period. "Prevalence" refers to the number of cases present in the population at any given time.)

[1] Stickle and Blechman, 2002.

Typologies

Classification schemes, or typologies, are used to aggregate common elements of shared behavior patterns, event characteristics, or psychological profiles. All of these typologies appear in some form in the juvenile firesetting literature. Because most existing research comes from the clinical and psychological sciences, a clear emphasis on psychological and individual-level classification schemes exists.

Some research has produced typologies that speak to common elements in firesetting behaviors and event characteristics, but that research is quite limited. The firesetting behavior typologies have been created based on co-occurring behaviors such as aggression, antisocial behavior, delinquency, and substance abuse (Heath et al., 1985; Kazdin, 1986; Sakheim and Osborn, 1999; Slavkin, 2000). Research studies attempt to identify the correlates of firesetting behavior and to isolate the risk factors that may promote it. Age, gender, marital status of parent or guardian, fire involvement history, and smoking behavior are among these correlates. Typologies of event characteristics may include differentiation by severity of damage, frequency, environment, and the number of juveniles involved (Showers and Pickrell, 1987; Bradford and Dimock, 1986; Raines and Foy, 1994). Importantly, these studies point to the environmental origins of firesetting behavior.

Classification of psychological profiles among juvenile firesetters is a common emphasis in research efforts. These typologies reflect individualistic origins of firesetting. They also reflect greater participation of psychologists and clinicians in firesetting research than of sociologists and anthropologists. Perhaps the most pervasive psychological typology is a classification scheme built from clinical assessments of known firesetters (Kolko, 2002).

This psychological typology identifies four subtypes of firesetter: curious, pathological, expressive, and delinquent. These subtypes involve differences mostly in motivation but often implicate other individual and environmental characteristics related to firesetting. The curious firesetter uses fire out of fascination, the pathological out of deep-seated individual dysfunction, the expressive as a cry for help, and the delinquent as a means to antisocial or destructive ends. Importantly, these categories are not always mutually exclusive.

A firesetter, for example, may use fire for expressive and delinquent reasons simultaneously. In any case, references to psychological typology, or slight variations on it, appear widely in the literature.

It is difficult to know how widely typology is used to describe juvenile firesetting in the professional community, how useful it is to those professionals, or its precise implications for intervention, control, and treatment programs.

Etiology

Most theory in behavioral and social science seeks to explain and predict behavior. Research, then, is designed to test a theory's explanative and predictive powers. At present, assessing the strengths of theoretical formulations of juvenile firesetting behavior is difficult because a comprehensive national research strategy has yet to be designed and implemented. For the moment, several theoretical formulations of firesetting behavior can be gleaned from the existing literature.

Etiology refers to causes and origins. Identifying possible causes of behavior is worthwhile because some causes suggest certain remedies and not others. If, for example, we knew that certain materials caused unwanted combustion, then we could develop strategies to minimize the possibility of their combustion. Similarly, understanding how certain characteristics or circumstances influence juvenile firesetting may lead to targeted efforts that can address those characteristics and prevent firesetting behavior.

Distinguishing between correlation and cause, however, can be difficult. Correlation involves a relationship between two variables that simply appear and fluctuate together in some way. Cause, on the other hand, involves a direct cause-and-effect relationship, clearly indicating that one variable causes another. Given this caveat, the theories of firesetting etiology (see sidebar) represent a range of theoretical approaches for explaining juvenile firesetting.

At times, these theoretical elements are embedded unnoticeably in the assumptions about juvenile behavior patterns. At other times, they are overtly stated and tested by research studies. Whether explicitly identified or not, these theories of the etiology of juvenile firesetting represent current thinking within the field.

Intervention, Control, and Treatment

Remedial efforts to address problematic behavior usually are based on a notion about why the behavior occurs. For example, prevention programs that emphasize community outreach, in-school instruction, and media campaigns will most likely suppose that firesetting is a learned behavior. If a youth learns to be a firesetter, then he

Theories of Firesetting Origins

Theory	Motive	Origin	Etiological Theme
Opportunity theory	Expressive and instrumental	External	Firesetting is a product of the open and relatively unrestricted access to fire as an instrument and/or weapon (Cohen and Felson, 1979).
Learning theory	Expressive and instrumental	External	Firesetting is a behavior learned through association with family, peers, and subcultural forces that wittingly or unwittingly abet inappropriate fire use (Kolko and Kazdin, 1986).
Expressive trauma theory	Expressive	Internal	Firesetting is a manifestation of preexisting childhood trauma and is used to vent frustration with victimization or other life circumstances (Lowenstein, 1989).
Stress theory	Expressive and instrumental	External and internal	Firesetting is a behavior that releases accumulating stress or seeks stress or danger in an uneventful life. It is often closely related to vandalism, shoplifting, and graffiti among juveniles (Lyng, 1990).
Power association theory	Instrumental	External and internal	Firesetting is a means for juveniles who are otherwise disempowered to attain power over people and/or the environment (Sakheim and Osborn, 1986).
Social acceptance theory	Expressive and instrumental	External and internal	Firesetting is motivated by the desire to gain acceptance by a peer or a peer group (Swaffer and Hollin, 1995).
Societal reaction theory	Instrumental	External and internal	Firesetting is behavior produced in large part by the firesetter's knowledge that it will produce a substantial reaction or response from the wider society, such as the arrival of police and fire departments (Macht and Mack, 1968).
Risk assessment theory	Expressive and instrumental	External and internal	Firesetting is a behavior that develops as a juvenile matures and either co-occurs with or is produced by other individualistic and/or environmental circumstances (Kolko and Kazdin, 1986).

or she can be taught about or persuaded of the dangers of firesetting. On the other hand, psychological counseling and treatment programs generally assume that firesetting is a manifestation of a personality or behavioral disorder, wherein fire usage is an expression of inner turmoil. Fire, justice, and clinical professionals engaged in firesetting intervention, control, and treatment tend to recognize the assumptions about firesetting origins that support their remedial efforts. However, juvenile firesetting likely has multiple causes, and firesetters may be of many different types. What works with members of one group may not work with members of another because their behaviors may have discrete origins. Fortunately, the firesetting research literature clearly recognizes that successful intervention, control, and treatment involve multiple strategies that respond to firesetting's multiple origins. Despite this rather complicated scenario, defining the current state of research-based remedial efforts is possible. Some of these efforts are described below.

Risk factors. Risk factor identifiers are used for predictive purposes. If the risk factors associated with firesetting are known with some certainty, then the professional community might be able to determine the types of juveniles in greatest jeopardy of engaging in firesetting behavior. At present, analyses of risk factors for firesetting are inadequately developed, and confidence in existing applications is low.

Education programs. Media campaigns targeting fire prevention have a long-standing history. The Smokey the Bear campaign, for example, has been used for decades. More recently, local agencies have implemented their own campaigns, including those offered within primary, middle, and secondary schools. Some new education programs target only those juveniles who have been identified as fire-involved in one way or another. Two observations are important: First, some confusion exists regarding the target audience. Are these programs designed with an age group in mind or with an eye to the difference between fireplay and firesetting or fire interest and fire involvement? Second, rigorous evaluation of the outcomes of the prevailing educational efforts is relatively scarce.

Intervention. Intervention strategies are designed to interrupt firesetting behavior. In most cases, these strategies are intended to respond quickly the moment a juvenile engages in inappropriate fire usage. Although systematic evaluations of intervention strategies are rare, the literature suggests that the more successful local efforts involve a multisystemic response from the fire, school, law enforcement, and mental health communities. Comparatively little research exists that addresses the efficacy of intervention efforts delimited by age of firesetter, type of firesetter, or event characteristics—all of which are important for determining best practices in firesetter interventions.

Treatment. The research literature addresses two broad types of treatment strategies: pharmacological and psychological or clinical. Pharmacological remedies to firesetting are typically implemented when fire usage co-occurs with another behavior pattern, such as hyperactivity, neurological disorders, or maladaptive conduct disorders. Although drug therapies are prescribed in some clinical trials, mixed evidence supports their effectiveness in addressing firesetting. The dearth of comprehensive research on drug therapies renders assessing their application with confidence problematic. Psychological or clinical treatment programs, in contrast, dominate the existing literature, even though treatment programs generally attend to only those juveniles known to have engaged in inappropriate fire usage. Juveniles who escape attention or reporting are not often treated in this context.

Numerous types of psychological and clinical treatment programs exist. Some address the mental health needs of individual firesetters, whereas others address the broader needs within the firesetter's family and school. Still others address the needs of the juvenile resident within a mental health institution or juvenile detention center. Two conclusions are reached in the clinical literature. First, successful treatments are hand-tailored to the needs of individual juveniles. Second, successful treatments often employ multisystemic approaches, involving the firesetter's family, school, ongoing clinical counseling and care, and the participation of local fire and law enforcement officers.

Limitations of the Research Literature

The body of firesetting theory and the research that tests it to date are considerable. The literature shows that there is no single profile of the juvenile firesetter nor is there a single cause of firesetting behavior. The research literature reveals that fireplay and firesetting are two different behavior sets, although a developmental relationship may exist between the two. In some cases, firesetting may be likely to co-occur with other behaviors, such as aggression, risk-taking, antisocial behavior, and substance use. Finally, the literature reveals that some prevention, intervention, and treatment programs show promising results.

Gaps in the research literature remain. Most apparent is the lack of a sufficient systematic assessment of the scope of juvenile firesetting over time. Although some municipalities, counties, and states have made efforts to measure the occurrence of firesetting, most have not. Many fire professionals consider firesetting to be underreported. Existing studies suggest that the majority of reported cases are identified by the medical, clinical, and education communities rather than the fire and law enforcement communities that have limited investigation budgets and are constrained by juvenile protection statutes. In fact, a considerable number of fireplay and firesetting incidents may escape the attention of the medical, clinical, and education communities because the incidents are handled within families and outside the notice of others. The development and implementation of a periodic, nationwide survey of households could address this shortcoming and provide useful information to policymakers and decisionmakers.

The literature presents several systems for classifying firesetting behavior and individuals. In many cases, however, these taxonomies have been built from convenience samples. Some studies fail to provide control or comparison groups to ensure the reliability and validity of findings, although more recent studies have taken steps to address this shortcoming. Clearly, more research using larger representative samples and control groups should be encouraged to identify risk factors associated with firesetting, to discern co-occurring behavior sets, and to understand the developmental process that may link fireplay and firesetting. The professional communities that deal with juvenile firesetting have expressed a need for reliable classification systems, taxonomies, and typologies. That reliability should be fostered through ongoing research and development.

Finally, many prevention, intervention, and treatment programs have been designed and implemented to address juvenile firesetting, protect public safety, and meet the therapeutic needs of firesetters. The NASFM leadership and membership have identified juvenile firesetting as a priority in the hope of minimizing its occurrence and the destruction and tragedy it brings.

Many juvenile prevention, intervention, and treatment programs for juvenile firesetters have been put in place with allocated resources but without sufficient means to evaluate program efficacy. Without evaluation components, determining which programs are effective and assessing whether program benefits justify their costs are difficult. Although building program assessment and evaluation components into the design of new programs may be beneficial, it is an expensive proposition. Evaluation costs are generally about 10 to 15 percent of the total program budget. Evaluation is a sound investment, however, because it is more likely that resources will be well spent, results-oriented programs will prosper, and, ultimately, that juvenile firesetting will be addressed in a cost-effective manner.

Recommendations for Research

Through the collaborative process of the Justiceworks project, NASFM and colleagues in the fire, justice, and clinical communities worked together to articulate their concerns. Gaps in the existing research literature have been identified and suggestions have been made to bridge them. Involving practitioners and professionals provided an opportunity to ensure that the questions brought forth would result in the answers that are needed.

The following recommendations are presented for research in child and adolescent firesetting. The recommendations have two sources: existing gaps in firesetting research and the input of working professionals. Considerable effort was made to find points of convergence between the two. Three directions for future research follow, in order of consensus.

Conduct a National Juvenile Firesetter Survey

One of the first tasks facing researchers is to determine and better describe the scope of the challenge posed by adolescent firesetters. Much of the research conducted to date on adolescent firesetters is based on convenience samples of persons determined to be firesetters by parents, law enforcement officials, or clinicians. Samples drawn from identified firesetters, however, may overemphasize some characteristics of firesetting behavior and obscure others. A scientifically constructed national survey would allow practitioners and policymakers to better understand the scope of the problem. It would also give researchers a basis for comparing the results of their research with firesetters identified from a nationwide sample.

Such a survey should provide reliable data along a number of lines of inquiry, allow data to be correlated in a variety of ways, and address such questions as the following:

- How often do youth engage in fireplay and firesetting?
- What is the distribution of fireplay by age group, and which groups are most at risk for recurrence?
- What are the characteristics of youth fireplay and firesetting and the resulting fires?
- What distinctions in youth fireplay and firesetting emerge among geographic regions of the country and among rural, suburban, and urban areas?
- What correlations exist between fireplay and firesetting and indicators of economic status, gender, age, and event characteristics?

Analyses from the survey would allow practitioners, policymakers, and researchers to better understand and respond to the problems of fireplay and firesetting. Precedents exist for conducting nationwide community surveys of children and adolescents, which could be used as models.

Construct a Firesetting Classification System

Participants in the Justiceworks research conference repeatedly emphasized the need for a classification scheme to reliably describe and systematically categorize firesetting behavior and its risks. For instance, both practitioners and researchers understand that some kinds of fireplay and firesetting behavior are relatively benign, impose relatively little risk of serious fire loss, and respond well to simple, low-cost interventions. It appears equally clear that other kinds of firesetting behavior are associated with serious human pathologies and increased risk of tragic outcomes.

Communities would benefit from a clear, scientifically based classification system for firesetting. Such a system should accommodate the various types of juvenile firesetting, age of onset and recurrence, event characteristics, and offender traits. The classification system should allow practitioners, policymakers, and researchers to reliably distinguish firesetting that entails a high risk of escalation or repetition from behavior that entails a low risk and to target enforcement, treatment, and scientific resources to high-risk behaviors.

Current classification schemes do not adequately distinguish adolescent firesetting from child firesetting. Although research supports making such a distinction, further research is needed to elucidate the relationship between age and firesetting. Several participants in the Justiceworks research conference asked whether identifiable career paths exist for some types of firesetting behavior and whether some kinds of behavior or offender characteristics suggest which children or adolescents are at greatest risk. Insights into these issues would help practitioners, policymakers, and researchers target their efforts more effectively to youth who manifest various types of behavior.

An additional reason for developing a reliable classification system is that youth may be stigmatized as firesetters regardless of the level of risk that they present for recurring behavior. Participants in the research conference repeatedly stressed that any new classification system should reflect a sensitivity for the lasting effects of the stigmatization of youth.

Identify and Evaluate Promising Intervention and Treatment Programs

As previously noted, a significant body of scientific inquiry exists regarding the treatment of youthful firesetters and the psychological characteristics of firesetting youth. This research has contributed to an understanding of important aspects of firesetting behavior, especially the relationship between aggression, conduct disorders, and firesetting. A number of promising avenues for future research in this area exist, including the identification and evaluation of promising intervention/treatment programs and an investment in basic research on the pathology of firesetting behavior. The distinction between

clinical and abnormal psychology is somewhat arbitrary in this context, however. Research in each field is likely to be useful to the other, but some research may be better accomplished in the clinical setting or may draw on theoretical frameworks that go beyond the field of psychology.

Several conference participants expressed the hope that research could identify which interventions work best, especially in treating high-risk firesetters. Participants posed the following clinical questions:

- Which kinds of interventions can be delivered efficiently and effectively by teachers and fire services professionals? By psychotherapists? Which can only be delivered by specialized professionals in specialized treatment settings?
- How important is it for clinicians to think of firesetting behavior as a separate problem rather than as a manifestation of problems for which they have already developed treatments?
- What are the optimal strategies for firesetting prevention efforts?
- Do the differences in the two types of behavior (impulsive and deliberate firesetting) arise at different times in the development of the individual or the onset of firesetting?
- To what extent is juvenile firesetting associated with antisocial behavior?
- To what extent is firesetting unique and to what extent is it like other conduct and personality disorders?

Research that addresses these questions could clarify whether resources to combat firesetting should be focused on specialized interventions and treatments.

Conclusion

Past research on juvenile firesetting provides a foundation on which to build new research initiatives that will require resources and expertise across the social, behavioral, and health sciences. The understanding of juvenile firesetting in 2004 may be comparable to the understanding of child abuse more than 25 years ago, when concern about the victimization of children grew from the law enforcement, clinical, and medical professionals who witnessed the damages of child abuse. These professionals looked to the research community where social, behavioral, and health scientists developed research initiatives to explore the epidemiology, correlates, and causes of the physical, sexual, and emotional abuse of children. The incidence and prevalence of child abuse in the United States are lower today than they were a quarter century ago. This decrease may be attributable to research initiatives that led to improved prevention and intervention programs.

Juvenile firesetting is a serious and persistent problem. Enlisting the aid of the research community will help the field to better understand how and why juvenile firesetting occurs, to determine the types of juveniles involved in firesetting, and to establish the best practices to combat it.

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For Further Information

To contact the National Association of State Fire Marshals, send an e-mail to projectmanager@firemarshals.org.

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