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Child Abduction: Aged-Based Analyses of Offender, Victim, and Offense Characteristics in 550 Cases of Alleged Child Disappearance*

ABSTRACT: Crimes against children, particularly cases involving abduction and/or homicide, continue to be problematic as both a social phenomenon and judicial responsibility. Such cases routinely receive immense community and media attention and rapidly overwhelm investigative resources. Research in the area of childhood victimization, however, has only recently gained national prominence. While numerous studies on child abuse and neglect have been conducted, research on child abduction and homicide remains scant. Previous studies examining child abduction suffer from limited geographical scope or fail to base predictive analyses on victim characteristics. The current study reports the results of a nationally representative sample (47 states, the District of Columbia, and Puerto Rico) of 550 cases of alleged child abduction obtained from Federal Bureau of Investigation files for the period 1985 through 1995. Study results demonstrate that both offender and offense characteristics vary significantly according to victim age, gender, and race. Such differences appear critical to crime reconstruction, criminal profiling, and investigative resolution. Additionally, these data suggest that current child abduction prevention programs may emphasize inaccurate offender traits.

KEYWORDS: forensic science, child abduction, child homicide, behavioral science, criminal profiling, juvenile justice

Crimes against children, particularly cases involving abduction and homicide, continue to be problematic as both a social phenomenon and judicial responsibility (1). Such cases routinely receive intense community, media, and law enforcement attention, and can rapidly overwhelm local investigative resources (2). Cases involving child victims are not only burdensome from an investigative standpoint, but are also emotionally exhausting. Law enforcement agencies are commonly tasked with the simultaneous pursuit of multiple, time-sensitive avenues of investigation, often with inadequate resources (i.e., financial, logistical, manpower) (3).

While increased public and legislative concern has given the investigation of crimes against children national prominence, research targeted at narrowing investigative efforts in cases of child victimization has been limited. Published studies largely address child physical abuse, sexual exploitation, and familial neglect (4–6). This research, when coupled with extensive media dissemination, has resulted in enhanced public awareness, reporting, and investigative resolution. However, research concerning the abduction and murder of children remains scant.

Whereas other causes of childhood death have declined (e.g., congenital defects, infant disease), childhood murder has risen over 50% in the past three decades (7). Finkelhor states that minority children are particularly affected, comprising 69% of all child homicide victims. Finkelhor further argues that different types of child homicides can only be understood by taking a developmental perspective. Childhood homicide patterns follow a "developmental victimology," indicating that offense characteristics change as children age (7).

Previous research on child abduction and homicide, while providing some information concerning victim, offender, and offense characteristics, has focused largely on academic issues of definition and methodology (8). Studies that have assessed victim risk and offender traits often suffer from a limited geographic scope, having examined cases from a single city or region (9–14). Utilizing nationally representative data to document victim, offender, and offense characteristics facilitates case resolution by providing more accurate information on which to predict child abduction and homicide trends, thereby enhancing investigative resource management. In addition to the benefits for law enforcement, such data provide a sound basis for the development of future child abduction prevention programs. This is important given that the majority of child abduction prevention materials currently used in classrooms undergo little reliability or validity testing (15).

Previous studies of child abduction and homicide also suffer from a lack of age and/or gender-based analyses. Recent research has shown the importance of assessing the victimization of children from a developmental perspective (1,7,10,16). Victim age and gender have been shown to be critical variables in child victimization cases, often reflecting both offender motive and methodology (1,5,7,10,16). By breaking down child victim samples into specific age and gender groups, different victimization patterns are revealed. In addition, victim age and gender are among the few variables consistently known by authorities at the onset of an investigation. Previous studies frequently examine victims of all ages collectively, subdivide children into large general categories, or exclude groups of children (10,16). Predictive models that character-

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ize offender and offense traits based on victim age and gender potentially reduce investigative burdens and improve case resolution by narrowing the initial case focus and maximizing investigative resource utilization.

The current study reports the results of a nationally representative sample of child abduction cases obtained from the files of the Federal Bureau of Investigation (FBI). This study examines and describes victim, offender, and offense characteristics for Federally reported child abduction cases and provides predictive data targeted at improving case investigation and resolution. Additionally, it is expected that these data may create new avenues for child abduction prevention programs.

Method

Cases utilized in this study were obtained from two databases maintained by the Federal Bureau of Investigation's National Center for the Analysis of Violent Crime (NCAVC). Specifically, data were gathered from: 1) the Violent Criminal Apprehension Program (VICAP), which operates in conjunction with police agencies nationwide to link unsolved violent crimes; and 2) the Child Abduction and Serial Killer Unit (CASKU), which serves as the FBI's primary child abduction investigation entity. Data on 550 abducted or allegedly abducted children were gathered from 512 VICAP and CASKU incident files for the period 1985 through 1995. Case inclusion required that: 1) the victim meet the Federal definition of a child (i.e., 0 to 17 years old), and 2) the case be reported to the FBI as an abduction or suspected abduction, or as murdered with abduction originally suspected or alleged. Abduction was defined as the coerced, unauthorized, or otherwise illegal movement of a child for the purpose of a criminal act. Homicide cases originally reported as abductions were included, as investigative experience has demonstrated that deceased child victims found quickly after their disappearance or in close proximity to the disappearance site are frequently categorized as homicides rather than abductions. Because identical cases could have been independently entered into both the VICAP and CASKU databases, careful screening for duplicate cases was conducted.

Following review for inclusion criteria, case data were entered into a single, comprehensive database utilizing SPSS 6.1 software (SPSS Inc., Chicago, IL). SPSS facilitates statistical analyses of complex databases and is a standard in social science research. A supplemental questionnaire was developed in conjunction with the Department of Psychology, University of California at Los Angeles and the National Center for Missing and Exploited Children, Washington, DC, yielding additional detailed abduction, remains disposal, and biographical data. Telephone interviews were conducted with the lead investigators for each case in order to verify existing facts and to obtain additional or more detailed case information.

Case data were divided into four general categories: offender, victim, offense, and remains disposal characteristics. Offender characteristics included age, gender, race, relationship to the victim, location of residence, and offense motive. Victim data included child age, gender, race, and location of residence. Offense characteristics included abduction location, distance from victim's and offender's residences to the abduction site, victim injuries, cause of death, and time of death.

Remains disposal methodologies were also examined in an effort to produce reliable, predictive information on where and how the remains of deceased children are disposed. Remains disposal characteristics included general disposal site description, ecologi-

cal and geophysical site properties, extent of remains concealment, type of remains packaging, site proximity to roadways and thoroughfares, distance from victim's and offender's residences to the disposal site, distance from the abduction site to the disposal site, condition of remains when found, and how remains were discovered.

Offense motives were classified into five main categories, following those of Lanning (5) and Warren et al. (17). Motive categories included: 1) sex, requiring physical evidence of a sexual act (i.e., pathology and/or serology); 2) emotion-based, consisting of child abuse fatalities, child abuse fatalities resulting in parents claiming abduction (false allegation), revenge, retribution, and rage-based crimes; 3) profit, including drug, robbery, and extortion cases; 4) infant abduction, abduction with the intent of keeping the child; and 5) unknown motivation.

The relationship of the offender to the victim was classified into three categories: 1) family, including parents (biological, step, foster, adoptive), all other relatives (either blood or by marriage), and partners of the parent (boy/girlfriends); 2) acquaintances, requiring some level of familiarity to the victim prior to the onset of the offense (e.g., friends of the family, neighbors, co-workers, babysitters, victim's boy/girlfriends); and 3) strangers, having no known contact with the victim prior to the onset of the offense.

Child victims were categorized by age and gender (Table 1). Age groupings were based on a modification of Crittenden and Craig's childhood classification (10), and reflect current U.S. scholastic and societal age cohorts. The seven child age categories utilized include: 1) neonate (0–1 month); 2) infant (1–12 months); 3) toddler (13–36 months); 4) preschool (3–5 years); 5) elementary school (6–11 years); 6) middle school (12–14 years); and 7) high school (15–17 years) children. Analyses were conducted on the overall victim sample, as well as each discrete age group (Tables 1 and 2). Detailed frequency and correlational analyses were conducted to identify significant relationships between variables and to illustrate general data trends. Remains disposal methodologies and predictive modeling techniques will be addressed in detail in subsequent manuscripts.

TABLE 1—*Victim and offender gender and race frequency data within victim age groups.*

| Age Category | Gender (%) | | Race (%) | | |
	Male	Female	CA*	AA*	O*
Victims	n	n	n	n	n
	165	385	395	95	57
Neonates	54	46	48	26	26
Infants	63	37	66	23	11
Toddlers	60	40	35	54	11
Preschool	26	74	60	24	16
Elementary	25	75	75	13	12
Middle	24	76	82	10	8
High	21	79	83	13	4
Offenders	n	n	n	n	n
	430	66	352	101	42
Neonates	9	91	68	23	9
Infants	46	54	54	34	12
Toddlers	59	41	39	49	12
Preschool	85	15	63	22	15
Elementary	99	1	77	17	6
Middle	97	3	82	12	6
High	98	2	73	19	8

* CA = Caucasian; AA = African American; O = other minorities.

TABLE 2—*Victim and offender age, race, and gender frequency and statistical data (N = 550).*

	Male	Female	t	X^2
Victim				
Age $\overline{X}$ (SD)	7.54 (5.98)	10.41 (5.14)	−5.69*	
n (%)	165 (30)	385 (70)		88.00*
Race (%)				ns†
Caucasian	96 (17)	299 (55)		104.33*
African American	47 (9)	48 (9)		ns
Other Minority	22 (4)	35 (6)		ns
Offender				
Age $\overline{X}$ (SD)	28.06 (9.00)	27.10 (7.72)	ns	
n (%)	430 (87)	66 (13)		267.13*
Race (%)				34.17†*
Caucasian	309 (62)	43 (9)		201.01*
African American	87 (17)	14 (3)		52.76*
Other Minority	34 (7)	8 (2)		16.10*

* $p < 0.0001$.
† Weighted Chi-square analyses comparing racial distribution of the current sample to national census data.

Results and Discussion

The primary purpose of this study was to create an investigative tool for professionals working child abduction and homicide cases that would aid in the timely recovery of missing children, as well as facilitate offender apprehension and prosecution. To this end, this study examines victim, offender, and offense characteristics from a nationally representative sample of abducted or allegedly abducted children. The database utilized consisted of cases reported to the FBI for investigative assistance. Such cases are not necessarily typical of all child abduction scenarios, but rather are among the more difficult cases to resolve. Thus, the victim, offender, and offense profiles created from this database are representative of FBI case typologies.

The geographic distribution of cases examined in this study encompassed 47 states, the District of Columbia, and Puerto Rico. Analyses performed on these data clearly demonstrated that distinct patterns exist among child abduction and resulting homicide cases, particularly within discrete childhood age groups. Clear and differing offense patterns were identified for victims within various age categories based on factors such as victim gender and ethnicity (Table 1). Offender characteristics also varied with victim age, gender, and race. While the overall sample size was large, analyses of data within age, gender, race, and motive categories sometimes resulted in a marked reduction in within-group sample size. Where small sample size precluded statistical analyses, results are presented as general trends.

Results will first be presented on the overall offender and victim samples. Victim, offender and offense characteristics will then be examined in detail within each of the seven child age groupings.

Offender Characteristics

Offenders in this study (Table 2) were generally male (87%), and Caucasian (71%). When offender gender was analyzed within the victim age groupings, male perpetrators were overwhelmingly dominant from preschool through high school (Table 1). Children in the younger age groups (neonates through toddlers) were primarily victimized by females or by both males and females in relatively equal proportions. African American (20%) and other minorities (9%) were less common offenders. Weighted Chi-square analyses, however, indicated that offender race was not representative of racial frequency within the U.S. population ($X^2 = 34.17$, $p < 0.0001$), with fewer Caucasians and more African American offenders than would be expected (adult census data: Caucasian 80%; African American 12%, other minorities 8%) (18). Overrepresentation of African American offenders was particularly apparent in cases involving younger victims (neonates through preschoolers) (Table 1). Offenders usually victimized children from within their same race ($r = 0.53$, $p < 0.0001$). Offender age distribution ranged from 11 to 65 years of age, with 60% under age 30. Teenage offenders represented 19% of the offender sample.

Table 3 provides a summary of offense characteristics by offender gender and race. Male offenders ($n = 430$) typically abducted their victims from inside the victim's home (31%), followed by public streets inside (23%) and outside the victim's neighborhood (14%). They victimized children for sex (60%), followed by emotion (27%) and profit crimes (13%). In most cases, male offenders were acquaintances (41%) or strangers (40%), averaging 28 years of age. They were more likely to abduct females (74%) and utilize strangulation (29%), blunt force trauma (24%), stabbing (21%) or guns (12%) to kill their victims. Male offenders lived at (21%) or within 1 mile of (25%) the abduction site, or from 1 to 5 miles (24%), 5 to 10 miles (11%) or over 10 miles (19%) from the abduction site. In cases where time of death could be determined accurately, male offenders frequently kept their victims alive for a period of time, killing them within 24 h (62%) rather than immediately after abduction (33%). When disposing of the victim's remains, male offenders left the victim at the abduction site (32%), with transportation of remains less than 1 mile (17%), 1 to 5 miles (19%), 5 to 10 miles (6%) or over 10 miles (26%).

Caucasian and African American males perpetrated abductions differently (Table 3). Whereas Caucasian offenders abducted children from a variety of locations, African American offenders typically abducted children in close proximity to the child's home. Abduction motive appeared to be somewhat racially delineated, in that Caucasian offenders frequently abducted children for sexual reasons whereas African American male offenders committed largely emotion-based crimes. Furthermore, while Caucasian males were rarely family members, African American male offenders were often related to their victims. Victims of African American male offenders more closely approximated the national gender distribution (59% female) as opposed to Caucasian offenders (79% female);

TABLE 3—*Percentage of offense characteristics by offender group.*

	Male (n = 430)	Female (n = 66)	Male Caucasian (n = 309)	Male AA (n = 87)	Female Caucasian (n = 43)	Female AA (n = 14)
Abduction Site	(397)	(63)	(282)	(83)	(40)	(14)
Home-inside/outside	31/5	49/3	23/6	53/4	50/5	50/0
Neighborhood Street	23	0	26	17	0	0
Other Street	14	3	17	8	3	0
Hospitals	0	21	0	0	15	36
Vehicles	0	10	2	1	10	0
Other	27	14	26	17	17	14
Motive	(295)	(61)	(199)	(70)	(38)	(14)
Sex	60	3	74	26	5	0
Emotion	27	51	17	51	47	50
Profit	13	2	9	23	3	0
Infant Abduction	0	44	0	0	45	50
Relationship	(403)	(63)	(288)	(84)	(40)	(14)
Family	19	48	11	43	45	50
Acquaintance	41	12	44	32	12	14
Stranger	40	40	45	25	43	36
Victim—Gender/Race	(430/429)	(66/64)	(309/308)	(87/87)	(43/42)	(14/14)
Male	26	48	21	41	49	57
Female	74	52	79	59	51	43
Caucasian	75	59	94	15	88	0
African American	16	27	1	76	2	100
Other Minority	9	14	5	9	10	0
Cause of Death	(317)	(28)	(213)	(78)	(16)	(7)
Blunt Force Trauma	24	46	22	27	25	100
Stabbing	21	7	21	20	6	0
Strangulation	29	11	35	17	19	0
Gunshot	12	0	9	22	0	0
Suffocation	7	29	8	3	50	0
Other	7	7	5	11	0	0
DORAS*	(297)	(57)	(212)	(63)	(35)	(14)
0	21	51	15	40	46	57
<1 mile	25	2	26	22	3	0
1–5 miles	24	10	24	21	6	7
5–10 miles	11	9	12	9	8	14
>10 miles	19	28	23	8	37	22
TKAA†	(242)	(14)	(165)	(57)	(11)	(0)
0	33	86	21	60	82	—
<24 hours	62	7	73	39	0	—
24–48 hours	3	7	4	1	9	—
DASDS‡	(292)	(15)	(209)	(61)	(14)	(0)
0	32	27	22	57	21	—
<1 mile	17	7	17	21	7	—
1–5 miles	19	27	22	11	29	—
5–10 miles	6	13	7	5	14	—
>10 miles	26	26	32	6	29	—

Numbers in parentheses represent corresponding sample sizes.
* DORAS = Distance from offender residence to abduction site.
† TKAA = Time kept after abduction.
‡ DASDS = Distance from abduction site to disposal site.

victim selection was largely within the offender's race for both groups. African American male offenders murdered more often by gun and less often by strangulation than Caucasian offenders. Furthermore, African American males were more likely to live at the victim's home and kill the victim immediately, and were far less likely to transport the victim following the murder. Caucasian male offenders, however, were likely to transport the victim, and less likely to live with the victim or kill them immediately relative to the initial confrontation.

Table 3 shows female offenders (n = 66) typically abducted their victims from inside the victim's home (49%), followed by hospitals (21%) or vehicles (10%). As opposed to male offenders, females generally victimized children for emotion-based motives (51%) or with the intent of keeping the child (i.e., infant abduction–44%). Female offenders were more likely to be family members (48%) or strangers (40%), averaging 27 years of age. Unlike male offenders, they killed both females (52%) and males (48%) equally, using blunt force trauma (46%), suffocation (29%), and strangulation (11%). They lived at (51%), within 1 mile of (2%), 1 to 5 miles (10%), 5 to 10 miles (9%) or over 10 miles (28%) from the abduction site. When time of death was known, female offenders were more likely than male offenders to kill their victims immediately (86%). When disposing of the victim's remains, female offenders left their victims at the abduction site (27%), transported them less than 1 mile (7%), 1 to 5 miles (27%), 5 to 10 miles (13%) or over 10 miles (26%).

Racial comparisons of female offenders indicated that African American women frequently utilized blunt force trauma to kill their victims, whereas Caucasian female offenders were more likely to suffocate or strangle their victims. As with male offenders, female offenders usually abducted children within their own race.

Offense motives varied with victim gender, age, and race. Whereas female victims were more likely to be abducted for sex ($X^2 = 97.59$, $p < 0.0001$), male and female victims were at equal risk for emotion-based ($X^2 = 1.29$, ns), profit-based ($X^2 = 0.61$, ns), and infant abduction offenses ($X^2 = 0.03$, ns). Figure 1a illustrates changes in offense motive with victim age for male victims. As shown in Fig. 1a, infant abduction and emotion-based offenses were the primary abduction motives for male neonates and infants. While infant abductions subsequently decreased with age, emotion-based crimes dramatically increased, becoming the dominant offense motive for male infants, toddlers, and preschoolers. The incidence of emotion-based abduction declined during elementary, middle, and high school. Crimes based on sex and profit, first observed in male preschoolers, were more predominant during elementary and middle school years. High school males experienced a marked decrease in sex crimes, and an increase in profit-based offenses.
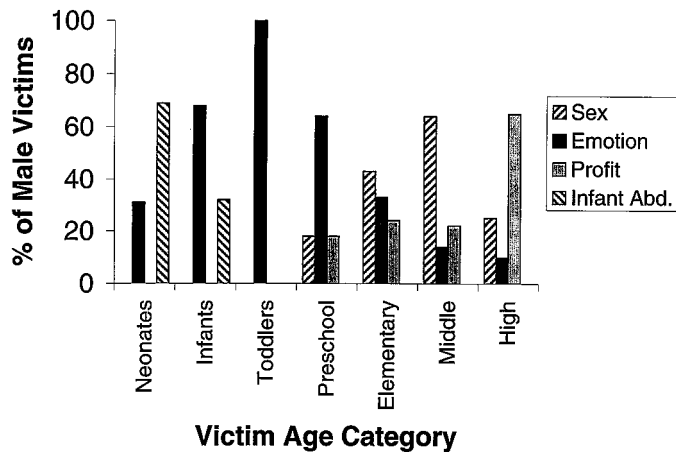
Figure 1b depicts similar patterns for female victims. Infant abduction was the primary motive for female neonates. Emotion-based crimes predominated during infancy, peaked in the toddler group, and then subsequently decreased through elementary school. Fewer emotion-based cases occurred in elementary, middle, and high school. Sex crimes appeared earlier for females, dramatically increased through elementary school, and remained the dominant motive for older female victims. Whereas profit crimes were more prevalent in males, profit-based crimes were not common for female victims.

Offense motive also varied by offender gender and race. Analyses of offender gender (Fig. 2) demonstrated that females rarely committed sex ($n = 2$) or profit ($n = 1$) crimes, but were responsible for 27% ($n = 31$) of the emotion-based offenses and 100% of infant abductions. Generally, male and female offenders selected victims of different ages ($t[494] = 13.19$, $p < 0.001$), with male offenders more likely to choose older victims ($\bar{x} = 10.81$) than female offenders ($\bar{x} = 2.33$). In addition, whereas male offenders were more likely to choose female victims (74% versus 26% males), female offenders selected victims of either gender (52% females, 48% males). Thus, male offenders generally perpetrated sex offenses against older female children, while female offenders committed infant abductions and emotion-based crimes against younger victims irrespective of gender.

Offense motive was also dependent upon offender race (Fig. 3). Sex crimes were committed primarily by Caucasians (84%; $X^2 = 205.55$, $p < 0.0001$), while emotion-based and profit crimes were committed by both Caucasian and African American offenders (emotion: 46% and 39%, respectively; profit: 49% and 41%, respectively). Infant abductions were committed largely by Caucasian offenders (63%), but a significant proportion were also committed by African American offenders (26%). Burgess and Lanning (19) also found an overrepresentation of African Americans victims and offenders in their infant abduction sample.

Victim Characteristics

Caucasian children represented 72% of the victims, while African Americans composed 17%, and other minorities 11% (child census data: Caucasian 75%, African American 15%, other minorities 10%). The racial distribution of the victim population was reflective of the demographic composition of American soci-

FIG. 1a—*The number (percent) of male victims, within each study age category, abducted for sex, emotion, profit or infant abduction motives.*
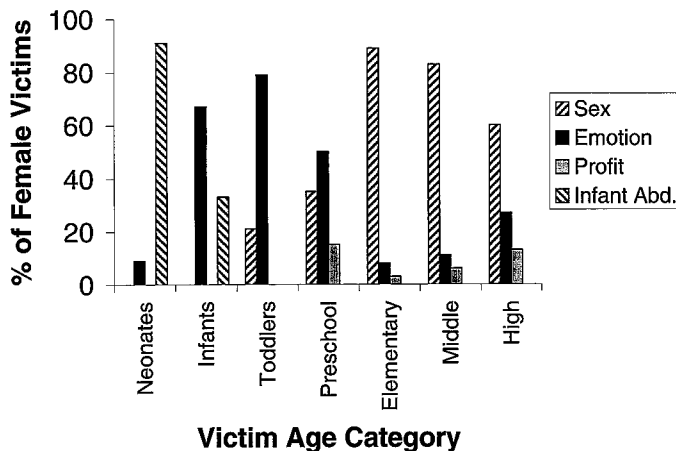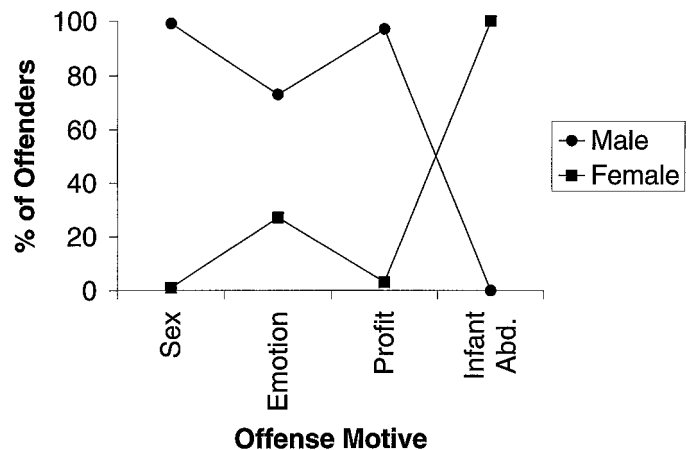
FIG. 1b—*The number (percent) of female victims, within each study age category, abducted for sex, emotion, profit or infant abduction motives.*

FIG. 2—*The number (percent) of male and female offenders, within the study population, abducting children for sex, emotion, profit or infant abduction motives.*
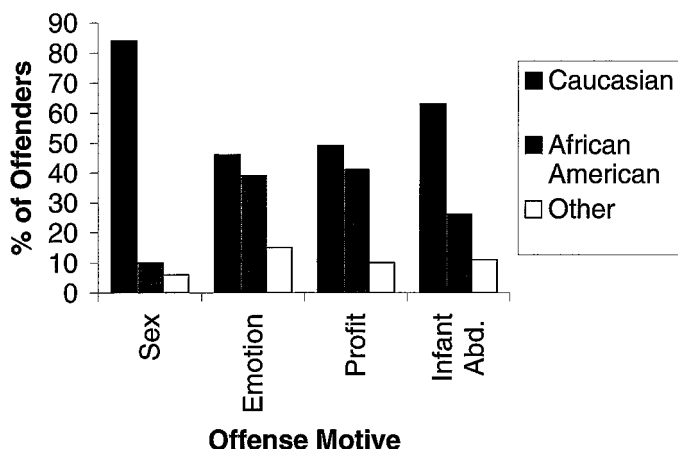
FIG. 3—*The number (percent) of Caucasian, African American, and other minority offenders abducting children for sex, emotion, profit or infant abduction motives.*
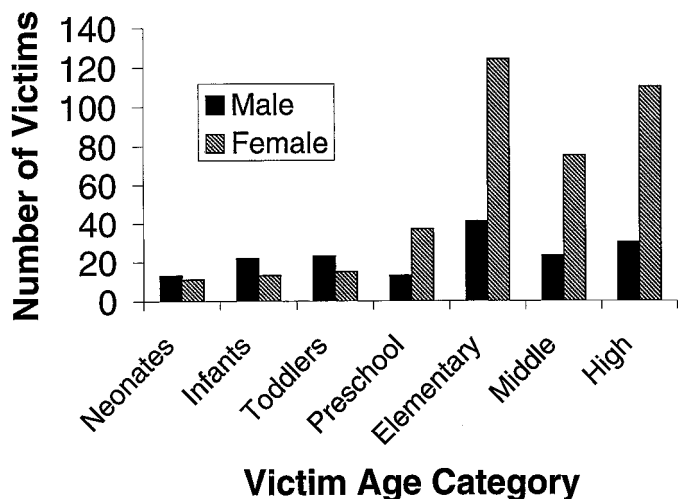

FIG. 5—*The number (percent) of Caucasian, African American, and other minority victims in each study age category.*

FIG. 4—*The number of male and female victims in each study age category.*

Figure 5 depicts the relationship between victim age and victim race. Given the national census distribution for child race, the proportion of Caucasian victims in the sample was lower than expected for neonates through preschoolers (see also Table 1). Young African American children (neonate to preschool), on the other hand, appeared to be at increased risk for abduction and homicide during this time. Whereas African American children appeared to be at greatest risk during the toddler period, Caucasian children were at lowest risk at this age. Thus, African American toddlers appear to be at particularly high risk for homicide at the hands of someone known to them, for emotion-based reasons. This finding appears consistent with other literature discussing the relationship between the unusually high level of poverty and parental absence seen within minority groups, and the increased risk for minority child abuse fatalities (7,20).

An analysis of victim-offender relationship indicated that victims knew their offenders in 60% ($n = 284$) of the cases studied. In general, neonates were abducted primarily by strangers. Family members, and to a lesser extent acquaintances, were the primary offenders for infants, toddlers, and preschool children. Familial offenders became less prominent during school years, with acquaintances and strangers becoming the primary offenders. Victim-offender familiarity, however, was dependent on victim age and gender. Gender analyses indicated that for male victims (Fig. 6a), strangers were the most common offenders for neonates (64%), and decreased in significance for infants and toddlers. Stranger offenses began to increase again after toddlerhood, peaking in middle school (64%). Family members were the most common offenders for male infants (60%), toddlers (83%), and preschoolers (58%), decreasing thereafter with victim age. Acquaintance perpetrated crimes generally increased with victim age, peaking in elementary school (45%). High school males were equally likely to be victimized by strangers (48%) and acquaintances (52%).

Victim-offender relationship trends for female victims were generally similar to trends observed in males (Fig. 6b). Strangers were the most common offender group for neonates (82%), but decreased and remained less common from infancy through the preschool years. Family members were the most common offend-

ety as measured by the U.S. Census (18) (Weighted $X^2 = 2.71$, ns). While the census indicates equal proportions of male and female children residing in the United States, female children (70%) were victims of abduction and homicide far more frequently than males (Table 2). Additionally, female victims were, on average, older than males. An examination of victim age distribution by victim gender (Fig. 4), however, demonstrated that gender was not a significant risk factor until preschool (Neonate: $X^2 = 0.17$, ns; Infant: $X^2 = 0.27$, ns; Toddler: $X^2 = 1.06$, ns), at which time the risk of abduction and homicide for females increased to three times the risk for males ($X^2 = 11.52$, $p < 0.001$). Following preschool, females continued to be at least three times more likely to be abducted and murdered (Elementary: $X^2 = 41.75$, $p < 0.0001$; Middle: $X^2 = 27.59$, $p < 0.0001$; High: $X^2 = 45.71$, $p < 0.0001$) (see also Table 1). Victim age also varied with victim race ($F(4, 537) = 7.77$, $p < 0.001$) (Table 1). Caucasian children were victimized at significantly older ages than African American ($t[488] = 5.30$, $p < 0.0001$) and other minority children ($t[72.53] = 4.50$, $p < 0.0001$) (Levene's Test for Equality of Variances).
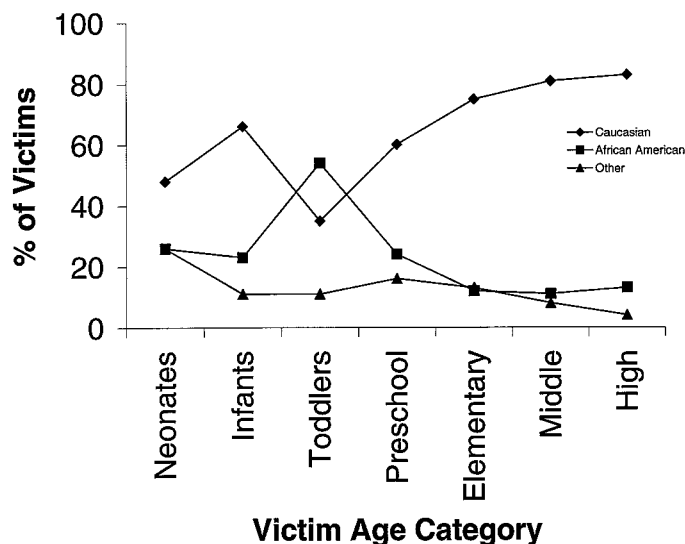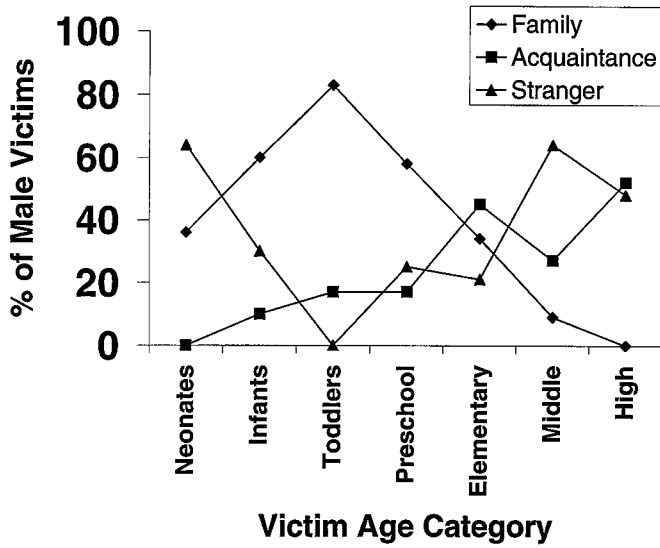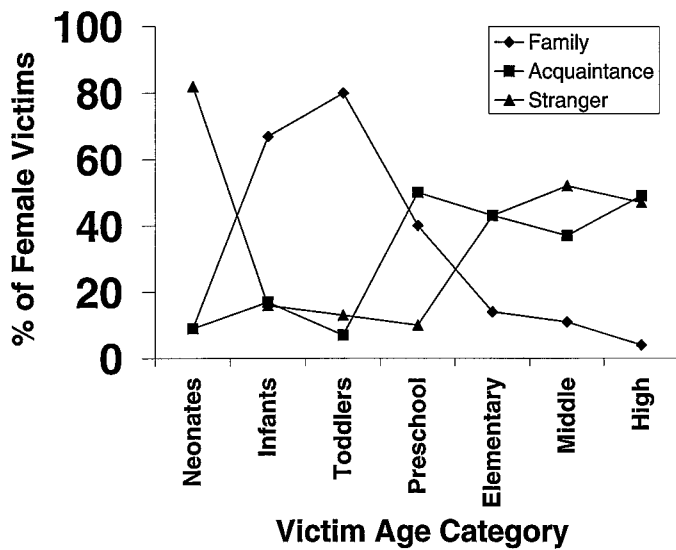
A

FIG. 6a—*The number (percent) of male victims in each study age category, abducted by family members, acquaintances, and strangers.*

B

FIG. 6b—*The number (percent) of female victims in each study age category, abducted by family members, acquaintances, and strangers.*

FIG. 7—*The number (percent) of family, acquaintance, and stranger offenders within the study population, abducting children for sex, emotion, profit, or infant abduction motives.*

tion occurred at (48%) or within 1 mile (30%), within 1 to 2 miles (10%), or over 2 miles (12%) of the victim's home. Likewise, offenders often lived close to the abduction site. Usually, the offender's residence was the abduction site (26%), or the offender lived within 1 mile (21%) or 1 to 2 miles (13%). Offenders also resided 2 to 5 miles (9%), 5 to 10 miles (11%), 10 to 20 miles (7%), 20 to 30 miles (3%) or over 30 miles (10%) from the abduction site. In cases where time of death could be determined, victims were generally kept alive for less than 24 h (59%), with few being held alive for 24 to 48 h (4%) or over 3 days after abduction (2%). A number of victims were killed immediately (35%). Offenders commonly disposed of victim's remains within 5 miles of the abduction site (66%). In 30% of these cases, there was no transportation of the remains, and an additional 16% were transported less than 1 mile. However, in a number of cases, offenders moved remains 5 to 10 miles (7%), 10 to 30 miles (17%) and over 30 miles (10%) from the abduction site.

Victim, offender, and offense characteristics varied significantly with victim age. Gender and racial comparisons also were examined where appropriate. Sample sizes within age groups varied, however, making specific analyses within some age groups difficult. Because small sample sizes can threaten the internal and external validity of results, results presented for age groups characterized by small sample sizes are discussed in terms of general trends. Where larger groups exist (e.g., elementary school children), statistical interactions between sample characteristics are presented.

Neonates (Birth to 1 month; n = 24)

Generally, neonates were abducted from hospitals (54%) or from the victim's home (38%). While neither victim gender (54% male; $X^2 = 0.17$, ns) nor race (48% Caucasian; $X^2 = 2.17$, ns) was a statistically significant factor in victim risk, African American victims represented 26% of the neonate sample, as did other minorities (26%) (child census data: Caucasian 75%; African American 15%; other minority races 10%) (18). While the sample size was too small to perform weighted chi-square analyses, it appeared that minority neonates were abducted more often than would be expected given national demographic racial data (Fig. 5). Offenders were largely female (91%; $X^2 = 14.73$, $p = 0.0001$) and Caucasian

ers of female infants (67%), and toddlers (80%), decreasing thereafter. However, family members continued to be common offenders of preschoolers (40%). Acquaintances were relatively uncommon offenders until preschool (50%). Incidents involving stranger offenders increased significantly in elementary school (43%), and remained elevated through high school, with acquaintances and strangers the most common offenders for school-aged females (i.e., elementary through high school). Given these age and gender patterns, it is interesting to note that, in general, emotion-based offenses were more likely to be perpetrated by family members, whereas sexually motivated and infant abductions were more often perpetrated by strangers (Fig. 7). Profit crimes more often involved acquaintances or strangers rather than family members.

An analysis of abduction location indicated that, generally, victims were abducted and victimized near their residences. Abduc-
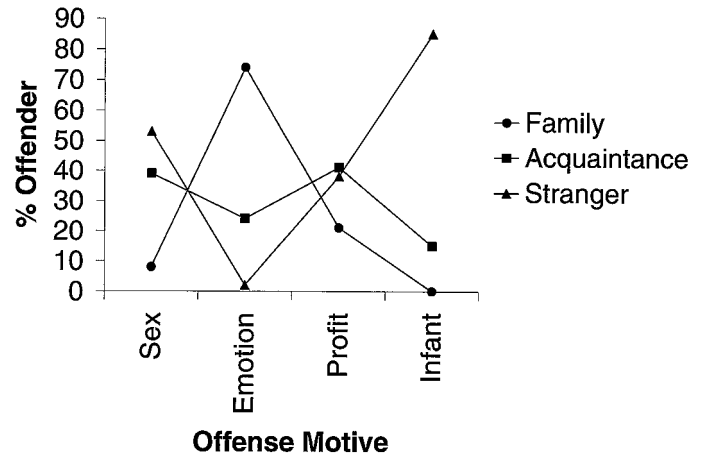
(68%; $X^2 = 12.64$, $p = 0.0018$), followed by African American (23%) and other minority races (9%). Offender race and gender distributions did not appear to match the national demographic patterns, with female and African American offenders (census data: African American adults 12%) overrepresented (18). The average age for female neonate offenders ($n = 20$), regardless of race, was 30.7 years (range 18 to 48 years). Offenders of neonate victims were strangers (73%), followed by biological parents (23%) and acquaintances (4%).

Neonate victims fell into one of two patterns characterized by offense motive (Figs. 1a and 1b). The primary pattern in neonate cases involved infant abduction offenses (79%), where maternal desire for a child was the basis for the abduction. As found in previous infant abduction research (19,21), victim gender did not appear to be critical in victim selection ($n = 19$; 47% male, 53% female). Victims were Caucasian (39%), African American (33%), and other minorities (28%). These racial proportions did not match national demographic racial distributions, thereby indicating a greater risk for minority neonates.

Offender demographics in infant abduction cases did not match the national demographic distributions for gender or race. Offenders of infant abduction were solely female (100%). In addition, offenders were Caucasian (65%), followed by African American (23%) and other minorities (12%). Therefore, as found in previous research (19,21), female (100% vs. 50% census) and African American offenders (23% vs. 12% census) were overrepresented within this subsample. However, victim race generally matched the race of the offender or offender's spouse/boyfriend. Infant abductors were primarily strangers (94%), and all were strangers for African American neonates ($n = 6$; 100%). Victims were typically abducted from a hospital (68%) or the victim's home (26%). A majority of infant abduction offenders lived more than ten miles from the abduction site (66%). Neonate victims of infant abduction were typically returned safely to their parents (90%; 10% of the victims had not been recovered at data collection). These findings generally support previous infant abduction research (19,21).

Infant abductors have reported that, in general, the motivation to obtain a child stemmed from their own maternal desires, or to satisfy the desires (perceived or real) of others (e.g., boyfriends, husbands) (19,21). While this may explain the preponderance of female offenders committing infant abductions, it does not provide a clear understanding as to the overrepresentation of African American offenders. Further research must be conducted to address this issue.

The secondary pattern for neonates was victimization for emotion-based reasons ($n = 5$). This category contained too few victims to conduct statistical analyses; however, general trends are reported herein. These victims were primarily male (80%) and Caucasian (80%). Offenders were primarily female (60%) and Caucasian (80%). All victims were murdered by male or female biological parents (100%). The offense site was usually the victim's home (80%), with cause of death identified as blunt force trauma (60%), suffocation (20%) and strangulation (20%). Victim's remains were taken 1 to 5 miles away from the home for disposal (67%), while 33% were disposed of at the home. In cases where time of death could be determined accurately, victims were killed immediately, in anger.

When compared to neonatal infant abductions, it was clear that despite the small sample size, the basic offense dynamics of neonate emotion-based crimes differed. While the primary offenders of infant abductions were strangers, family members were the sole perpetrators of neonatal emotion-based offenses. Emotion-based victimization often occurred in the victim and offender's home rather than a hospital. Whereas emotion-based crimes resulted in homicide, there were no recorded deaths of neonatal victims of infant abduction.

Infants (1 to 12 months; $n = 35$)

Victim gender was not a critical factor in the assessment of infant victim risk (37% female, 63% male; $X^2 = 2.31$, ns). However, while not statistically significant, compared to national gender demographic distributions, male victims were overrepresented. Victims were commonly Caucasian (66%; $X^2 = 17.20$, $p = 0.0002$), but there were more African American victims (23%) in the infant sample than might be expected given national demographic racial data (Fig. 5). Similar patterns were observed for offenders. Offender gender was not a critical factor in the infant profile (54% female vs. 46% male; $X^2 = 0.27$, ns). Offenders were usually Caucasian (54%) or African American (34%; $X^2 = 8.90$, ns). Again, while Caucasians were the predominant offenders, a comparison with current national demographic racial data indicated that African Americans were overrepresented in the offender population. The majority of offenders were in their 20's (73%), and most were familiar with the victims (75%). The average age of male offenders was 25.6 years (range 17 to 41 years), but differed with race. African American males ($\bar{x} = 21.86$; SD = 2.54) were, on the average, ten years younger than Caucasian males ($\bar{x} = 31.33$; SD = 7.81) ($t[5.91] = 2.84$, $p < 0.05$; Levene's Test for Equality of Variances). The average age of female offenders was 26 years (range 13 to 42 years). Again, African American females ($\bar{x} = 18.25$; SD = 6.40) were, on the average, ten years younger than Caucasian females ($\bar{x} = 28.83$; SD = 8.35) ($t[14] = 2.30$, $p < 0.05$).

As with neonates, infants were either victims of emotion-based crimes (68%) or infant abduction (32%). This represents a reversal in the offense pattern seen in neonates, with fewer infant abductions and more emotion-based crimes in the infant sample. Because many infant abductors try to create the illusion of having experienced pregnancy and childbirth, the infant abductor typically seeks out a newborn child (19,21). Thus, infants, as defined in this sample, may be too old for the purposes of some offenders. This may account for the decrease in infant abduction prevalence rates.

In emotion-based crimes ($n = 21$), male infants (62%) were at higher risk than females (38%). Caucasian victims were most common (62%), followed by African Americans (24%) and other minorities (14%). African American and male victims were overrepresented in this sample when compared to the national racial and gender demographic distributions. Offenders were generally male (62%) and Caucasian (52%). African American offenders represented 38% of the sample, followed by other minorities (10%). Again, African American and male offenders were overrepresented in this sample. Offender age ranged from 17 to 41 years ($\bar{x} = 24.86$). Offenders of emotion-based crimes were always family members (100%), biological parents (particularly fathers) being the most common (90%). Victims were typically killed in their residence (90%), and in cases where time of death was known, always killed immediately. Victims were disposed of within 5 miles of their residence (83%), with 17% of the remains found 5 to 10 miles from the offense site. The most common methods of death were blunt force trauma (50%) and suffocation (40%).

In infant abduction scenarios ($n = 10$), victim gender did not appear to significantly affect risk (male 60%, female 40%). However, there was an exact victim-offender intraracial match in 100% of the

cases (i.e., offenders abducted same race children). Victims and offenders were Caucasian (60%), followed by African American (30%), and other minorities (10%). African American offenders and victims were, again, overrepresented when compared to the national racial demographic distributions. Offenders in infant abduction scenarios were, again, always female (100%), and ranged in age from 13 to 42 years ($\bar{x} = 27.80$). Offenders were either strangers (70%) or acquaintances (30%) with no cases involving parents or family members. These offenders abducted infants from various locations. Vehicles (30%) were the most common abduction location, followed by hospitals (20%), school/playgrounds (20%) and the victim's residence (10%). Many offenders lived within 10 miles of the abduction site (60%), with 30% living over 30 miles from the abduction site. As with neonates, most of the infant victims of infant abduction were returned home safely (90%; 10% were unresolved at the time of data collection).

In summary, the dynamics of infant abductions and emotion-based offenses differed, with similar offense patterns and different prevalence rates observed in neonate and infant cases. Emotion-based offenses were generally perpetrated by family members in the home, whereas infant abductions more often occurred away from the victim's home by female strangers.

Offenders appeared to be victimizing neonates and infants in locations they perceived as less risky. Infant abductions typically occurred in locations that minimized any extensive, direct parental contact (e.g., victim's home), away from the protective parent's familiar surroundings where parents may be better equipped to defend themselves and their children. Emotion-based offenses more often occurred in the victim's home, where the offender (100% were family members) felt more comfortable and had more privacy. In emotion-based crimes, victim's remains were rarely moved more than five miles from the victim's home, possibly indicating either the offender's reluctance to leave familiar territory, or a hastily prepared disposal plan.

Toddlers (1 to 2 years; n = 38)

Victim gender was not a significant risk factor (60% males; $X^2 = 1.68$, ns) in the toddler sample. African Americans were overrepresented in both the victim and the offender populations. African American victims outnumbered Caucasian victims (54% vs. 35%), with Caucasian toddlers abducted half as often and African American toddlers over three times as often as would be expected given national census data. African Americans were also the most common offenders (49%), followed by Caucasians (39%) and other minorities (12%), representing the only age period during which African American victims and offenders were the majority. Victim and offender race were highly correlated ($r = 0.97$, $p < 0.001$), with 100% of the African American offenders perpetrating crimes against African American children. Offenders were generally male (59%), and offender age ranged from 17 to 50 years ($\bar{x} = 27.45$). Offender age did not differ by race ($t[27] = 0.12$, ns) or gender ($t[31] = -0.05$, ns). The primary motivation for the victimization of toddlers was emotion-based ($n = 26$; 90%). Sexually motivated offenses (10%) represented the remainder of the cases.

The majority of offenders in toddler cases were family members (82%). Increased mobility and desire for independence at the toddler stage might be cause for increased attempts to control behavior, thereby resulting in more frustration and stress for caregivers (7). Strangers were identified as offenders in only 6% of the cases. While biological parents were offenders in 42% of the cases (pri-

marily the victim's mother), the mother's boyfriends or ex-boyfriends were also common offenders (29%). African American and Caucasian toddlers were victimized by their biological parents in generally the same proportions (35% vs. 42%, respectively); however, the mother's boyfriends/ex-boyfriends were often offenders of African American toddlers (47%). There were no incidents solely perpetrated by the mother's boyfriend/ex-boyfriend in the Caucasian toddler sample, with one incident perpetrated by the victim's mother aided by her boyfriend. This difference may be partly explained by family structure. African American children commonly live in single-parent homes (67%) compared to Caucasian children (25%) (20). These numbers indicate that African American youths could have more exposure to nonbiological father figures, who may be allowed unsupervised contact with the child, thus increasing their risk at the hands of these individuals.

As seen with infant victims of emotion-based offenses, methods of death were more personal and required physical contact. Blunt force trauma was the primary cause of death (71%), with burns (13%), suffocation (4%), strangulation (4%) and gunshot injuries (4%) representing the majority of remaining cases. Toddlers were victimized inside their own residences (75%), with many of the remaining cases involving abductions from shopping malls (6%), vehicles (6%), and school/playgrounds (6%). Offenders victimized these children in the offender's home (82%–offenders were often parents), with fewer offenders living within 1 to 2 miles (7%), 5 to 10 miles (7%) or 20 to 30 miles (4%) from the abduction site.

Again, as seen in the infant emotion-based sample, disposal location for the victim's remains was commonly close to the abduction site. Victims were disposed of within 1 mile in 56% of the cases (22% of these victims weren't moved at all) and within 1 to 5 miles in 22% of the cases. Where time of death was known, 80% of the victims were killed immediately, with 20% kept alive less than 24 h. Those killed immediately were all victims of emotion-based homicide. In emotion-based crimes, particularly child abuse offenses, premeditation is uncommon. Thus, disposal plans may not have been developed prior to the homicide, and offenders may tend to dispose of the victims close to home in familiar areas.

Toddler abduction and homicide cases showed a marked increase in emotion-based offenses, and were the first age group where sexually motivated victimization occurred (Fig. 1*b*). As found in previous studies, offenders motivated by sex appeared to select victims based on gender and age (8,22). As seen in Figs. 1*a*, 1*b*, and 2, sex offenders were more often male, typically victimizing school-aged females. The prevalence of older female children as victims of sexual offenses may be a function of both victim access and physical maturity. Older children are typically more mobile, and as they are granted more freedom to conduct their activities, they are less likely to receive continual adult supervision. Toddlers, on the other hand, are rarely separated from a caregiver, and are more difficult to access. Additionally, their smaller size and physical appearance may limit their appeal to a smaller population of sexually motivated offenders (22).

Preschool (3 to 5 years; n = 50)

Both victim gender (74% female; $X^2 = 11.52$, $p < 0.001$) and race (60% Caucasian; $X^2 = 16.48$, $p < 0.001$) were significant when assessing victim risk in the preschool subsample. African American victims were, again, overrepresented in this age category (24%) when compared to national demographic racial data (weighted Chi-square: $X^2 = 6.00$, $p < 0.05$). Caucasian preschool-

ers were primarily female (83%), and were victimized for sexual and emotion-based reasons equally. African American preschoolers, equally male and female (50% each), were most often victimized for emotion-based reasons (70% vs. 20% sexual offenses). Offenders of both Caucasian and African American victims were primarily male (82%). When examined by gender, whereas African American males were victimized largely for emotion-based motives (83%), females were victimized either for emotion-based (50%) or sexual motives (50%). Overall, family members (45%) and acquaintances (41%) were the most common offenders. However, family members, again, primarily the partner of the biological parent, were more typical offenders (73%, with no stranger-perpetrated incidents) in African American cases. This is most likely correlated to the higher proportion of emotion-based offenses in this group. Acquaintances were more common offenders of Caucasian preschoolers (56%), followed by family (24%) and strangers (20%).

Overall, there was a small proportion of abductions committed by strangers (14%; $X^2 = 7.00$, ns). Preschool children still spend the majority of their time with a parent or familiar caregiver, not typically experiencing the lapses in adult supervision that often occur when the child enters school (e.g., walking to and from home and school, insufficient after-school child care). Thus, there are fewer opportunities for strangers to victimize preschool children.

Both offender gender (85% male; $X^2 = 22.26$, $p < 0.001$) and race (63% Caucasian; $X^2 = 18.57$, $p < 0.001$) were significant in the preschool sample. African American (22%) and male offenders were overrepresented in this sample. Offender age ranged from 12 to 43 years ($\bar{x} = 26.40$). Neither race nor gender significantly influenced offender age.

There were three basic trends dictated by offense motive. Preschoolers were victims of emotion-based offenses (54%), followed by sexually motivated (30%), and profit crimes (16%; $X^2 = 8.16$, ns). In emotion-based crimes ($n = 20$), victims were generally female (65%). Caucasians represented 40% of the victims, followed by African Americans (35%) and other minorities (25%). Offenders of emotion-based offenses were typically male (70%) and Caucasian (50%), followed by African Americans (30%) and other minorities (20%). Both African American and other minority victims and offenders were overrepresented in this subsample when compared to national demographic racial distributions. Offenders were commonly family members (85%), with biological parents (primarily fathers) representing 45%, and the parent's boy/girlfriend responsible for 25% of the offenses. Acquaintances represented the remaining 15% of offenders. Caucasians ($n = 8$) were victimized by their biological parents (50%), acquaintances (38%), or other family members (12%). African Americans ($n = 7$) were, again, more often victimized by the partner of the biological parents (57%), followed by the biological parent (29%) and other family (14%) members.

Blunt force trauma (46%) was the primary method of death in emotion-based cases, followed by burns (31%) and stab wounds (15%). Most of these children were victimized in their residences (60%). Other cases occurred in the yard of the victim's home (10%) and at school yards and playgrounds (10%). Nonresidential abduction locations were either within 1 mile (50%) or within 5 to 10 miles (50%) of the victim's home. Offenders typically lived at the offense site (67%), or within 1 to 2 miles (20%). Remains disposal locations were at or within 100 yards of the offense site (58%), or within 5 to 10 miles (17%). An additional 25% of the victims were disposed of 10 to 30 miles away. Where time of death was known,

it appeared victims were often killed immediately (82%), with few being held and kept alive for less than 24 h (9%) or 24 to 48 h after abduction (9%).

The sexually motivated case profile for preschoolers ($n = 11$) differed from emotion-based crimes in victim, offender and offense characteristics. Victims were commonly female (82%). Victims and offenders were Caucasian (73%), followed by African American (18%) and other minorities (9%). This racial distribution closely matched national demographic statistics. Offenders were male (100%), and were often acquaintances of the victim (70%), with neighbors the most common offenders. Strangers (30%) comprised the remainder of the sex-based offender population. While the victim's residence was no longer the primary offense site (27%), many cases occurred in the victim's front yard (18%) or on a public street in the victim's neighborhood (27%). This appeared to be a function of the relationship to the offender, in that acquaintances (particularly neighbors) seemed to be abducting victims from their shared neighborhood. Additional abduction locations included other family members' homes (18%) and schools/playgrounds (9%). If the victims were not abducted from their homes (50%), they were within one mile (50%) of their home. Sexually motivated offenders typically lived within one mile (60%) or from 1 to 5 miles (20%) of the abduction site.

Suffocation (38%) and strangulation (38%) were the most common methods of death in sexual offenses, followed by blunt force trauma (12%) and gunshot wounds (12%). These methods of death differed from those found in preschool emotion-based homicides. Injury in emotion-based offenses often involved great force and/or open wounds (i.e., a higher level of outward physical damage to the body). Sexual homicide victims generally experienced injuries yielding a lesser degree of significant bodily trauma.

Victims' remains in sexual offenses were disposed of within 100 yards of the abduction site (50%) or within 1 to 5 miles (12%). However, a significant proportion were disposed of 10 to 30 miles (38%) away. When time of death was known, these victims were either killed immediately (50%) or within 24 h of abduction (50%).

Profit-based crimes, the third motive category, were extremely rare in preschoolers ($n = 6$). While this small sample size precluded detailed analyses of these crimes, general trends are discussed. Victims were both female (67%) and male (33%), and racially diverse (50% Caucasian, 17% African American, 33% other minorities). Offenders were mostly male (80%), with a racial breakdown of 60% Caucasian, 20% African American, and 20% from another minority group. Offenders were typically familiar with their victims, with family members committing 25% of the offenses, acquaintances 50%, and strangers 25%. All of the abductions occurred inside the victim's home, and cause of death was either strangulation (67%) or gunshot (33%).

In summary, the preschool period marks the age at which female risk of abduction and homicide increases threefold. Emotion-based crimes predominated; however, an increase was observed in sexually motivated crimes, and profit-based crimes were encountered for the first time. Analyses indicate that acquaintances become a primary threat to preschoolers, particularly in sexual and profit-based crimes. This is most likely due to victim accessibility. Preschoolers rarely have unsupervised contact with strangers, while acquaintances, family friends, and neighbors are often trusted with the child. Victim race depended largely on offense motive within this sample, with minority children, again, at higher risk in emotion-based and profit crimes.

Elementary School (6 to 11 years; n = *165)*

Victim gender (75% female; $X^2 = 41.75$, $p < 0.001$) and race (75% Caucasian; $X^2 = 126.11$, $p < 0.0001$) were significant risk factors for elementary school children. The proportion of victims by race generally mirrored the national demographic racial distribution (weighted Chi-square: $X^2 = 1.80$, ns), with 13% African Americans, and 12% other minorities. However, females were at significantly greater risk than males. Offenders were Caucasian (77%; $X^2 = 116.79$, $p < 0.0001$) and almost exclusively male (99%). Other offenders included African Americans (17%) and other minorities (6%). While offender race generally reflected national demographic distributions, male offenders clearly predominated. Offender age ranged from 11 to 56 years ($\bar{x} = 29.30$), with no significant age differences observed between genders or races. Offenders were acquaintances (44%), followed by strangers (38%) and family members (18%). Sex was the primary motive in the elementary school subsample ($n = 76$; 79%), followed by emotion-based (14%) and profit crimes (7%).

Offender and offense characteristics differed with victim gender. Females were victimized by acquaintances (44%) or strangers (43%; $X^2 = 17.25$, $p = 0.0002$), while male victims were more evenly divided among acquaintances (45%), family members (34%), and strangers (21%) (Figs. 6a and 6b). This is most likely due to offense motive. Female elementary schoolers were typically victimized for sexual reasons (89%). Emotion- and profit-based crimes were more common for males than females (33% vs. 8% emotion, 24% vs. 3% profit), and only 43% of males were sexually victimized. Differences were also noted among Caucasian ($n = 123$) and African American ($n = 21$) victims. Whereas Caucasian victims were primarily female (78%; $X^2 = 38.71$, $p < 0.0001$), gender was not significant for African Americans (48% female, $X^2 = 0.048$, ns). Caucasians were victimized by acquaintances (48%) or strangers (39%) rather than a family member (13%). African Americans, however, were victimized by family members (50%) or acquaintances (38%) rather than strangers (12%). Finally, while Caucasians were most frequently victims of sex-based crimes (90%), African Americans were victimized more uniformly for sex (24%), emotion-based (38%), and profit crimes (38%) ($X^2 = 2.43$, ns).

In sexually motivated abductions ($n = 76$), victims were primarily female (88%), and Caucasian (80%). Whereas female and non-African American minority (16%) victims were overrepresented in this sample, African American victims (4%) were underrepresented (weighted Chi-square: $X^2 = 9.02$, $p = 0.01$). Offenders motivated by sex were always male (100%), and typically Caucasian (86%). African American offenders represented 10%, and other minorities 4%. While offender race generally reflected national demographic distributions, male offenders clearly predominated. Strangers were the most common offenders (51%), followed by acquaintances (40%—typically neighbors, family friends, or babysitters) and family members (9%). These sex crimes typically occurred in (15%) or around the victim's home (51%), or at a shopping mall (10%). Offenders resided at (18%), within 1 mile (34%), or within 1 to 5 miles (16%) of the abduction site. An additional 14% lived within 5 to 10 miles, and 16% lived over 10 miles away. Victims lived at (27%) or within 1 mile of the abduction site (55%), with 7% living 1 to 5 miles away. The method of death usually involved strangulation (44%), stab wounds (17%), blunt force trauma (15%) or suffocation (10%). Victims' remains were disposed of at (23%) or within 1 mile of the abduction site (25%). An additional 18% were found within 1 to 5 miles. However, 28% were disposed of over 10 miles away (with over half of these victims found more than 30 miles away). In cases where time of death could be accurately determined, these victims were rarely killed immediately after the abduction (13%); most victims were kept alive less than 24 h (76%), and some were kept for 24 to 48 h (7%) or 3 to 7 days (4%).

Emotion-based crimes were less common for elementary schoolers ($n = 13$). Victim gender appeared not to be a critical risk factor (54% males, 46% females). Victim race patterns, however, differed from those observed in elementary school sex cases. Victims were equally Caucasian (39%) and African American (39%), followed by other minorities (22%). This racial distribution reflected an overrepresentation of African Americans and other minority groups. Offenders were primarily male (92%). Caucasian offenders were underrepresented (33%), and African American (42%) and other minority (25%) offenders were overrepresented. Victims were always familiar with their offenders, with family members representing 85% and acquaintances 15% of offenders. Victimization occurred inside the victim's home (62%), in the front yard (15%), at a school/playground (15%) or shopping mall (8%). Offenders lived at (60%) or within 2 miles of (20%) the offense site. A significant number of offenders (20%), however, resided over 10 miles from the abduction site. Cause of death involved blunt force trauma (37%), stab wounds (27%), burns (27%), or suffocation (9%). Disposal of victim remains occurred at (55%) or within 100 yards (18%) of the offense site. Remains were also recovered within 1 to 5 miles (9%) and 10 to 30 miles (18%) from the abduction site. Where time of death was known, 90% of these victims were either killed immediately or within 24 h after abduction (10%).

Profit-based crimes ($n = 7$) were rare in elementary schoolers. Too few cases were available to conduct meaningful analyses; however, general trends are discussed. These victims were primarily male (71%) and African American (71%; 29% Caucasian). All offenders were male, and were either African American (83%) or of another minority group (17%). The majority of the offenders were family members (80%), but 20% were classified as strangers. Victimization occurred within the victim's residence (83%) or inside the residence of a family friend (17%). Cause of death involved either gunshot injuries (50%), blunt force trauma (33%), or strangulation (17%). In the four cases where time of death was known, all victims were killed immediately.

When compared to the younger children, the dynamics of abduction changed dramatically within the elementary school group. There was an overall decline in family members as offenders, whereas stranger perpetrated offenses significantly increased (Figs. 6a and 6b). This is most likely due to the change in offense motive proportions. Sexually motivated crimes dominated this age group. Although female and Caucasian victims fell prey to sexually motivated offenders most often, sexual offenses also increased for males. Changes in victim-offender relationship and motive were most likely reflective of developmental changes in the victim (e.g., increased freedom and mobility obtained by children as they enter school, physical maturation).

Offense motive continued to be a critical factor in defining particular victim, offender, and offense characteristics. While victims of sexually motivated crimes were typically female, victim gender was not a risk factor in emotion-based crimes. Likewise, victim race was not significant in sexual offenses given the demographic distribution. However, minority victims and offenders continued to

predominate in emotion-based abductions and homicides. Sexually motivated offenses were typically perpetrated by a stranger or acquaintance, with the child's yard the most frequent site for abduction. Again, acquaintances (particularly neighbors) appeared to be victimizing children from their shared neighborhood (many offenders lived less than one mile from the abduction site). Thus, parents may have a false sense of security permitting children to play in their yards or neighborhoods, unknowingly allowing the offender access to the child. Unlike sexually motivated abductions, emotion-based crimes were most often committed in the home by family members. The method of death in sexually motivated offenses showed an increase in strangulation and stabbing cases, followed by blunt force trauma and suffocation. Previous research has also found a correlation between sexual motivation and strangulation and stabbing (5). Emotion-based homicides continued to be most frequently caused by blunt force trauma, in addition to stabbing and fire/burn injuries. While method of death remained more personal, there was an increase in weapon use (stabbing). This may be a function of the increased size of the child and a need to control the victim, as well as the availability of weapons (i.e., knives and cutting instruments are generally common within the home where emotion-based homicides occurred).

As opposed to emotion-based or profit homicides, fewer sexual homicides were immediate. Victims of emotion-based crimes were usually killed immediately, and similar to patterns found in younger victims of emotion-based homicides, disposal was more frequently close to the offense site. Although disposal of victim remains was within one mile of the abduction site for many sexually motivated cases, nearly 30% of the victims were discovered over ten miles away. Disposal patterns in sexual homicides were more variable.

Middle School (12 to 14 years; n = 98)

Victim gender (76% female; $X^2 = 27.59$, $p < 0.001$) and race (82% Caucasian; $X^2 = 100.23$, $p < 0.0001$) were significant factors when assessing victim risk. The racial breakdown for victims included 10% African Americans and 8% other minorities. Offenders were male (97%) and Caucasian (82%), followed by African Americans (12%) and other minorities (6%). While victim and offender racial frequencies were generally representative of national demographic data, gender of victim and offender were not. Victims were overwhelmingly female and offenders male. Victim-offender familiarity patterns differed from those found in younger child groups, in that offenders of middle schoolers were generally strangers (55%) or acquaintances (34%). Offender age ranged from 14 to 65 years ($\bar{x} = 29.90$). Offender age did not differ with race or gender.

Middle schoolers were victims of sexually motivated offenses (79%), followed by emotion- (11%) and profit-based (10%) crimes. Victim and offender profile patterns in sexually motivated crimes ($n = 48$) were similar to those found in elementary school children. Victims were primarily female (81%) and Caucasian (90%), with African American (6%) and other minority victims (4%) less common. Female victims were clearly overrepresented when compared with the national demographic gender distributions (weighted Chi-square: $X^2 = 27.59$, $p < 0.0001$). Caucasians victims were also overrepresented. Offenders were overwhelmingly male (98%), and Caucasian (88%). African American offenders represented 8% followed by other minorities (4%). Again, in sexually motivated abductions, male offenders were overrepre-

sented compared to the national gender distribution (weighted Chi-square: $X^2 = 82.38$, $p < 0.0001$) and Caucasians were also slightly overrepresented.

Offenders were strangers to their victims (55%), followed by acquaintances (36%) and family members (9%). Victimization often occurred in (15%) or around (26%) the victim's home. However, many abductions occurred in public areas outside of the victim's neighborhood (35%). Offenders lived at (5%) or within one mile of the abduction site (28%). Offenders resided from 1 to 5 miles away in 25% of the cases, and lived over 10 miles away in 33% of the cases. Victims lived at (21%) or within 1 mile (45%) of the abduction site, and within 1 to 2 miles in 18% of the cases. Cause of death in sexual homicides involved strangulation (50%), followed by blunt force trauma (20%), stab wounds (20%), gunshot wounds (3%), and suffocation (3%). Remains disposal locations were within 1 mile of the abduction site in 27% of the cases, with an additional 23% found within 1 to 5 miles. There were, however, a significant proportion of children found farther away. Victims were found 5 to 10 miles away in 6%, 10 to 30 miles in 29%, and over 30 miles from the abduction site in 15% of the cases. In cases where time of death could be determined, victims were rarely killed immediately after abduction (6%), with most victims kept alive less than 24 h (87%), and few between 24 to 48 h (6%).

Emotion-based crimes were rare for middle schoolers ($n = 7$). Although the value of data interpretation is limited, general trends were examined. Female victims (71%) outnumbered males (29%). There were equal numbers of Caucasian (43%) and African American (43%) victims, followed by other minorities (14%). Offenders were male (86%) and Caucasian (43%), followed by African Americans (29%) and other minorities (28%). Offenders were typically familiar with their victims (family 43%, acquaintances 43%), in that strangers represented only 14% of the offenders. Victimization was most common in (67%) or around (17%) the victim's home, and cause of death was due to gunshot (60%) or stab (40%) wounds. Remains disposal was at the abduction site (80%), with 20% found 5 to 10 miles away. When time of death was known, victims were killed immediately in 80% of the cases, followed by less than 24 h (20%).

Profit based crimes ($n = 6$) were similarly rare in middle schoolers. Again, data interpretations are limited to general trends. Both males (50%) and females (50%) were victims, while offenders were solely male (100%). Minorities (non-African American) represented 50% of the victims, followed by Caucasians 33%, and African Americans 17%. Caucasians, however, comprised 50% of the offenders, followed by African Americans (33%) and other minorities (17%). Offenders were typically acquaintances (50%) and strangers (33%). Victimization sites were often the victim's residence (33%), streets outside of the victim's neighborhood (33%), or other residences (17%). Cause of death included equal proportions (33%) of blunt force trauma, stabbings, and gunshot wounds. The abduction and disposal sites were typically the same location (83%) or were within 1/2 mile (17%) of each other. In cases where time of death could be accurately determined, victims were always killed immediately (100%).

Middle school victims continued to be more often female and Caucasian, with offenders overwhelmingly male and Caucasian. Strangers were the most common offenders, followed by acquaintances. This is reflective of the large proportion of sexually motivated crimes. Fewer sexually motivated abductions occurred in or around the victim's home, with many occurring in public areas outside of the victim's neighborhood. This change in location of ab-

duction is most likely a function of the increased mobility of the victims, in that older children become more independent and are granted more freedom to participate in unsupervised peer group activities. However, abduction locations were still commonly within one mile of the victim's home, indicating that while leaving their general neighborhood, middle school victims remained relatively close to home. Method of death for middle school victims of sexual homicide was similar to those of younger victims, often involving strangulation and stabbing injuries. Also, distances in remains disposal continued to be variable, with a number of victims moved over ten miles away from the abduction site. Half of the victims were recovered within five miles of the abduction site. Victims were not killed immediately, but typically kept alive less than 24 h after abduction.

Emotion-based homicides were infrequent for middle school victims. Whereas sexually motivated offenders were most often strangers, family members and acquaintances were common offenders of emotion-based homicides. In addition, while sexually motivated abductions often occurred outside the victim's neighborhood, victimization in emotion-based crimes occurred in or near the victim's home with movement of the victim's remains uncommon. When time of death was known, victims were generally killed immediately, and always with a weapon.

Profit-based homicides were also infrequent for middle school victims. Within this sample, however, weapon use was common (knives and guns), victims were killed immediately, and movement of the body was uncommon. Such offense characteristics could be indicative of premeditation of the crime and/or little remorse or concern.

High School (15 to 17 years; n *= 140)*

Victim gender (79% female; $X^2 = 45.71$, $p < 0.001$) and race (83% Caucasian; $X^2 = 156.06$, $p < 0.0001$) were significant factors when assessing victim risk. African American victims represented 13% of the sample and other minorities 4%. While victim race was representative of the national demographic distribution (weighted Chi-square: $X^2 = 6.15$, $p < 0.05$), female victims were overrepresented ($X^2 = 45.71$, $p < 0.0001$). Offender gender (98% male; $X^2 = 121.27$, $p < 0.001$) and race (73% Caucasian; $X^2 = 96.06$, $p < 0.0001$) were also significant. African American offenders represented 19% of the sample, followed by other minorities (8%). Compared to national demographic distributions for gender and race, male offenders were clearly overrepresented, while offender race was not significant (weighted Chi-square: $X^2 = 5.96$). The average age of male offenders, regardless of race, was 26 years with a range of 14 to 48 years. The average age of female offenders, regardless of race was 22 years with a range of 17 to 26 years. Most offenders were either acquaintances (50%) or strangers (47%); very few cases involved family members (3%).

Offense motive proportions changed for high school victims. Sexually motivated offenses occurred most frequently (52%), followed by profit (25%) and emotion-based (23%) crimes. This pattern represented an overall decrease in sexual offenses and increase in profit and emotion-based crimes when compared to middle school victims. Victim gender comparisons indicated sex was the primary motive for the victimization of females (60%), while profit (65%) was the primary motive for male victims (Figs. 1*a* and 1*b*). Finally, for female victims, 19% of the abductions were committed by boyfriends or ex-boyfriends wherein the motive was identified as domestic violence or "love." An additional 4% were killed by

their boyfriends because they were pregnant. This trend was seen only in the high school subsample.

In sexually motivated offenses ($n = 46$), victims were primarily female (89%) and Caucasian (91%). African American victims represented 7% of the victim sample, followed by a small number of other minorities (2%). Females and Caucasians were overrepresented as victims in this subsample ($X^2 = 28.17$, $p < 0.0001$). Offenders were male (98%) and Caucasian (80%), followed by African Americans (9%) and other minorities (11%). While offender race matched the national demographic distribution, male offenders were overrepresented ($X^2 = 41.09$, $p < 0.0001$). Offenders were strangers (57%), followed by acquaintances (36%) and family members (7%). The site of victimization was often either inside the victim's home (21%) or in the yard of the victim's home (16%), or in a public area outside the victim's neighborhood (26%). High schoolers were also victimized in shopping malls (12%) or vehicles (9%).

Offenders resided at (3%), within 1 mile (24%), from 1 to 5 miles (33%) or over 5 miles (40%) from the abduction site. Many victims were abducted within two miles (41%) of their homes, while 21% were abducted over 5 miles from home. Similar to middle school victims, abduction generally occurred farther from the victim's home. This, again, appeared to be related to the mobility of the victims, due to their increased level of independence. As is common with sexual homicides, method of death typically involved strangulation (43%) or stabbing (31%), followed by blunt force trauma (14%). Remains disposal locations were at (24%) or within 1 mile of the abduction site (12%). Most often, however, victims were recovered 1 to 5 miles away (42%). An additional 15% were found over 10 miles from the abduction site. When time of death could be determined, victims were most often kept alive less than 24 h after abduction (93%). Few were killed immediately (7%).

Victims of profit-based crimes ($n = 22$) were generally male (59%) and Caucasian (59%), followed by African American (27%) and other minorities (14%). Victim gender in this subsample did not significantly differ from the national demographic distribution ($X^2 = 0.73$, ns). However, victim race did not mirror the national population census with African Americans overrepresented. Offenders were male (100%), and Caucasian (59%), followed by African Americans (36%) and other minority races (5%). Gender and race of offender did not follow national demographic distributions, with males and African Americans overrepresented. Offenders were strangers (47%) or acquaintances (47%). Family members (6%) were rarely offenders of profit crimes. Crime reports indicated that these offenses often involved the sale and/or distribution of drugs.

Victimization typically occurred inside the victim's home (39%) or in the yard of the victim's home (28%), followed by public streets outside of the victim's neighborhood (22%). Offenders lived at (11%) or within 1 mile (44%) of the abduction site, with 11% residing within 2 to 5 miles and 33% over 5 miles away. Offenses occurred at (47%) or within 1 mile (33%) of the victim's home. Fewer victims were abducted within 1 to 5 miles (13%) or 5 to 10 miles (7%) of their residences. Cause of death commonly involved gunshot wounds (65%) or blunt force trauma (24%). Remains disposal locations were the same as the offense site (88%), with few victims found from 1 to 5 miles away (6%), or 5 to 10 miles away (6%). When time of death could be determined, victims were killed immediately (67%) or within 24 h after abduction (33%).

Victims of emotion-based crimes ($n = 20$) were female (90%) and Caucasian (70%), followed by African Americans (25%) and

other minorities (5%). Offenders were male (100%), and Caucasian (60%), followed by African Americans (35%) and other minorities (5%). Again, victim and offender gender did not follow national demographic distributions, with female victims and male offenders clearly overrepresented. Additionally, victim and offender racial distributions reflected an overrepresentation of African Americans. Offenders were either acquaintances (95%–primarily the victim's boyfriend/ex-boyfriend) or strangers (5%) to their victims.

Victimization more often occurred inside the victim's home (35%) or in the yard of the victim's home (15%), followed by shopping malls (10%), public streets not in the victim's neighborhood (10%), vehicles (10%) and friend's homes (10%). Offenders lived at (30%) or within 1 mile (20%) of the abduction site. Offenders also resided within 1 to 2 miles (20%), 2 to 5 miles (20%), and 5 to 10 miles (10%) away from the abduction site. Victims resided at (56%) or within 1 mile (12%) of the abduction site, with fewer cases occurring more than 5 miles from the victim's home (19%). Cause of death was generally blunt force trauma (36%), followed by gunshot (21%), strangulation (14%), and stabbing (14%). Remains disposal locations were often the same as the initial offense (33%) site. An additional 7% were disposed of within 1/2 mile, and 27% within 1 to 5 miles. Few victims were found between 5 to 10 miles (7%) away, but a substantial number were recovered over 10 miles away (26%). When time of death could be determined, victims were either killed immediately (50%) or kept alive less than 24 h (50%).

In general, Caucasian victims and offenders dominated this age group, particularly in sexually motivated crimes. However, African American victims and offenders continued to be more common in emotion- and profit-based crimes than would be expected given national census data. A substantial proportion of offenders in sexually motivated and profit crimes were strangers, whereas emotion-based offenses were almost solely perpetrated by acquaintances. The majority of the offenders in this subsample, across motive, were found to live within two miles of the abduction site. Offenders motivated by profit were the least likely to move their victims, while sexually motivated offenders continued to be the least likely to kill their victims immediately.

The dynamics of emotion-based abduction and homicide differed in high school victims as compared to elementary schoolers. While high school victims were overwhelmingly female, gender was not a risk factor in elementary school victims. However, race was a risk factor in both younger and older victims, with African Americans and other minority elementary schoolers and African American high schoolers overrepresented. Offenders in both age groups were primarily male; however, the younger victims were overwhelmingly killed by a parent or parent's partner in an abuse or revenge scenario, whereas high schoolers were typically killed by an acquaintance. The majority of these high school victims were females killed by their boyfriends/ex-boyfriends in domestic-type disputes (60%) or because they were pregnant (15%). Fewer high school victims were abducted from their home, and far fewer were killed immediately. These differences may be related to the increased levels of freedom granted to older high school children and their increased mobility (e.g., ability to drive), as well as the relationships and activities in which young adults are involved. These children may look and act like adults, with society generally allowing them to engage in a more adult-like lifestyle (e.g., driving, employment) (5).

When compared to younger victims, high schoolers were generally abducted farther from their homes, particularly in sexual offenses. Likewise, movement of victim remains was generally farther in cases involving older victims. Older victims are larger and more difficult to conceal, whereas younger victims can be more easily concealed in a variety of locations (e.g., boxes, trash dumpsters). Thus, while older victims may require more physical strength/effort to conceal, the search for an adequate disposal location may cause the offender to travel farther.

Conclusions

The findings presented in this study illustrate the importance of taking a developmental perspective in the analysis of crimes against children (5,7,10,16). As children age, they become more independent and mobile. As their environments become more diverse (e.g., from home to school), and their skills and abilities develop, their risk of victimization is affected. Their physical, emotional, and cognitive dependence on adults amplifies their vulnerability. Utilizing a developmental framework in the assessment of child victimization is critical to the understanding of specific crime patterns found in discrete child age groups.

In the 550 child abduction cases presented herein, clear patterns of victimization were found dependent upon the child's age. Victim, offender and offense characteristics differed as the child aged, and the specific findings outlined in this paper generally corroborated the three developmental principles found by Finkelhor in his study of child homicide (7). First, family members became less likely perpetrators as the child aged (5,7). As children entered school and spent more time outside of the home, acquaintances and strangers became more common offenders. This finding was not supported by Hanfland et al. (16), who surprisingly found that in child abduction and homicide cases, stranger-perpetrated offenses were more common in younger children (aged 1 to 5) than incidents involving family members. However, Hanfland et al. (16) focused on cases of child abduction and murder, or cases initially reported as abduction, typically perpetrated by strangers or non-family members. This difference in selection criteria may account for these findings. Further research must address this issue.

Second, as children aged, their victimization resembled crime patterns seen in adults. This was particularly true in the high school group, with increases in profit (often drug-related) offenses, and "domestic" type disputes between females and their boyfriends. However, while Finkelhor reported that teenaged victims (13 to 17) were more often male (83%), the current study found that teenaged females (78%) were at higher risk of victimization. Sampling differences may partially account for this finding. While Finkelhor's sample involved homicide victims as listed in the FBI's Uniform Crime Reports (UCR) (23), this database included abduction cases brought to the FBI for investigative assistance. These cases generally took more time and were more difficult to resolve. Additionally, these abduction cases were often sexually motivated. Because females are more often victims of sexual offenses (8,22), this may account for the discrepancy in victim gender proportions.

Third, victim gender was not a critical factor in determining risk for younger children. Neonates, infants and toddlers were commonly victims of infant abductions where victim race was the primary selection factor for offenders, or emotion-based crimes where the child was killed in a child abuse or revenge motivated scenario. In emotion-based offenses, the relationship of the victim to the offender was more predictive of victim risk than the victim's gender.

While Finkelhor found that young school-aged children (age 5 to 12) were at lower risk for homicide, this study found that school-

aged children (age 6 to 12) experienced a large increase in the risk of abduction and homicide. Hanfland et al. (16) also found an increase in the abduction and homicide of school-aged children (age 6 to 12). Again, differences in case selectivity may partially account for this finding. Within abduction offenses, there appears to be a continuum of increasing risk for victims ultimately based on the increased mobility and independence of the aging child. Younger children are more often victimized by family members and acquaintances in protected circumstances, whereas older, more physically mature children (e.g., school-aged) are abducted outside of the home by acquaintances and strangers primarily for sexual reasons.

The data presented in this study were obtained from FBI child abduction and homicide case files, and may not be representative of local and state law enforcement case typologies. However, the database was nationally representative, and the racial distribution of the victim sample matched the national demographic distribution. Also, data were gleaned from cases over a ten-year period (1985 to February 1995), reducing the likelihood that extraneous events affected offense patterns or prevalence rates. As with other archival, retrospective studies, these data are subject to case investigator recall error and faulty or inaccurate case documentation. To minimize such errors, conservative operational definitions and independent data verification methodologies were employed. Also, breaking down the sample into discrete age, gender, race, and motive categories sometimes greatly reduced the within-group sample size. While this reduction in sample size made statistical applications difficult, there were clearly some forms of abduction that were not as prolific in particular age and gender groups.

The developmental victimology profiles developed herein could benefit law enforcement and forensic professionals, particularly at the onset of the investigation where the only information consistently known is the victim's age, gender, and race. Providing law enforcement with sound, predictive case typologies could facilitate a more rapid case resolution, while increasing the preservation of physical evidence. This would help reduce investigative burdens (e.g., financial, manpower, logistical) while improving case resolution, resource management, and prosecution success. Additionally, these victimology patterns could provide child abduction prevention programs with more complete data for the development of reliable and valid abduction prevention strategies. While "stranger danger" should remain a critical component of all abduction prevention programs, clearly, children should be prepared to handle other potential threats. Future research must continue to address child victimization from a developmental perspective. Findings should be provided to law enforcement and forensic professionals to create more effective case management systems and search operations.

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