

- Miller, L. and Braswell, M. (1992), "Police perception of ethical decision-making: the ideal versus the real", *American Journal of Police*, Vol. 11 No. 4, pp. 27-45.
- Newburn, T. (1999), "Understanding and preventing police corruption: lessons from the literature", Police research series paper No. 110, Home Office, London.
- Nicolson, P. (1996), *Gender, Power and Organisations: A Psychological Perspective*, Routledge, London.
- Noor, N.M. (2006), "Locus of control, supportive workplace policies and work family conflict", *Psychologia: An International Journal of Psychological Sciences*, Vol. 49 No. 1, pp. 48-60.
- Okereke, O.G. (1993), "Public attitudes toward the police force in Nigeria", *Police Studies*, Vol. 16, pp. 113-121.
- Onyeozili, E.C. (2005), "Obstacles to effective policing in Nigeria", *African Journal of Criminology and Justice*, Vol. 1 No. 1, pp. 1-23.
- Punch, M. (2000), "Police corruption and its prevention", *European Journal on Criminal Policy and Research*, Vol. 8, pp. 301-24.
- Reitzel, L.R. and Harju, B. (2000), "Influence of locus of control and custody level on intake and prison-adjustment depression", *Criminal Justice and Behaviour*, Vol. 27 No. 5, pp. 625-44.
- Rotter, J.B. (1982), "Citation classics", *Current Contents*, pp. 14-20.
- Schneider, K.J., Bugental, J.F. and Pierson, J.F. (Eds) (2001), *The Handbook of Humanistic Psychology: Leading Edges in Theory, Research and Practice*, Sage Publication, Thousand Oaks, CA.
- Sherman, L.W. (1985), "Becoming bent: moral careers of corrupt policemen", in Elliston, F.A. and Feldberg, M. (Eds), *Moral Issues in Police Work*, Rowan and Allanheld, Totowa, NJ.
- Sherman, L.W. (1974), "Introduction: toward a sociological theory of police corruption", in Sherman, L.W. (Ed.), *Police Corruption: A Sociological Perspective*, Doubleday, New York, NY.
- Smith, T.W. (2001), "The self-serving function of hypochondriacal complaints: physical symptoms as self-handicapping strategies", *Journal of Personality and Social Psychology*, Vol. 44, pp. 787-97.
- Smith, V.L. (2003), "Analysis of locus of control and educational level utilizing the internal control index", unpublished master's dissertation, Marshall University Graduate College, South Charleston, WV.
- Takeshi, T. (2000), "Light and shadow in Japan's police system", *Japan Quarterly*, Vol. 47, p. 2.
- Waddington, P.A.J. (1999), *Policing Citizens*, UCL Press, London.
- Williams, H. (2002), "Core factors of police corruption across the world", *Forum on Crime and Society*, Vol. 2, p. 1.
- Wright, A. (2007), "Ethics and corruption", in Newburn, T., Williamson, T. and Wright, A. (Eds), *Handbook of Criminal Investigation*, Willan Publishing, Cullompton, pp. 586-609.

**Corresponding author**Amos Oyesoji Aremu can be contacted at: [sojiaremu@yahoo.co.uk](mailto:sojiaremu@yahoo.co.uk)

To purchase reprints of this article please e-mail: [reprints@emeraldinsight.com](mailto:reprints@emeraldinsight.com)  
Or visit our web site for further details: [www.emeraldinsight.com/reprints](http://www.emeraldinsight.com/reprints)



# Police organizational structure and child sexual abuse case attrition

Edward R. Maguire

American University, Washington, District of Columbia, USA

**Abstract**

**Purpose** - This paper aims to explore the effects of formal police organizational structure on child sexual abuse case attrition.

**Design/methodology/approach** - Data from two surveys were merged for this analysis: a 1988 survey of child abuse enforcement in US police departments, and the 1987 Law Enforcement Management and Administrative Statistics (LEMAS) database produced by the Bureau of Justice Statistics. Based on the structure-performance link that is rooted in structural contingency theory, this study examines the effects of both global and specific structural features on two case disposition ratios. Because structure is more easily malleable than other factors that may affect performance, such as environment and context, it is important to know whether certain structural arrangements produce more desirable outcomes than others.

**Findings** - The results indicate that the global structural variables included in this analysis play a small role in child sexual abuse case attrition. None of the variables included in the model influence the rate at which cases are designated as "founded". The size and height of police agencies and the rate at which they designate cases as founded both influence their arrest rates for child sexual abuse cases.

**Research limitations/implications** - The small sample size made it difficult to estimate the models. Future research should test the findings reported here using larger samples.

**Originality/value** - To the author's knowledge this is the first study to compare the effects of global and specific structures on police outputs.

**Keywords** Police, Organizational structures, Child welfare, United States of America

**Paper type** Research paper

**1. Introduction**

A long history of police scholarship has examined the organizational and environmental correlates of police agency outputs (Davenport, 1999; Slovak, 1986; Wilson, 1968). Arrest rates and clearance rates are the most obvious measures of police output and are used the most frequently in this line of research (Maguire and Uchida, 2000). The standard approach is to examine the effects of "global" measures of the environment and organization on agency outputs. General factors like political culture and crime rate are used to characterize the environment or context, while equally general factors like size, hierarchy, and specialization are used to characterize the organization. The selection of global or general measures of the organization as predictors seems reasonable if the output being measured is similarly general. But if the output being measured is specific or unique in some way, then it would seem prudent also to include measures of those aspects of the organization most responsible for generating that specific or unique output.

In this study the outputs of interest are the proportion of child sexual abuse cases designated by police as "founded" and the proportion of founded cases in which an



arrest is made. Because child sexual abuse cases represent a special challenge for police (due to the age and credibility of the victim and in some cases the close family relationship between the victim and the offender), innovative police agencies tend to implement specific policies and practices for handling these cases (Humphreys, 1996; Maguire, 1993). Here we attempt to explain variation in case attrition at two stages of child sexual abuse case processing continuum – the designation of the case as founded and making an arrest. We examine whether this specific and unique form of case attrition can be explained by three broad classes of explanatory variables: the context or environment in which the organization is situated, the global or general structure of the organization, and the specific organizational policies, practices, and structures in place for processing child sexual abuse cases. The theoretical contribution is the notion that global and specific structural features might both influence the way police organizations carry out their work.

## 2. Policing child sexual abuse

In the mid-1960s, under pressure from the medical community and the media, all 50 states adopted laws requiring certain professionals to report suspected cases of child maltreatment (Kalichman and Brosig, 1992; Martin and Besharov, 1991; Small, 1992). These “mandatory reporting laws” resulted in an enormous increase in reported cases, though different studies reveal different estimates. The American Humane Association estimates that the number of sexual abuse cases reported to state reporting agencies in the US grew from 7,559 in 1976, to 37,366 in 1980, to 71,961 in 1983 (Finkelhor, 1986)[1]. The National Center on Child Abuse and Neglect estimates that the number of sexual abuse cases reported nationwide rose from 42,900 in 1980 to 138,000 in 1986 (National Center on Child Abuse and Neglect, 1988). Although incidence estimates differ, it is clear that the number of reported cases rose sharply after the implementation of mandatory reporting laws. Then from 1990 to 2005, the number of child sexual abuse cases decreased by more than 50 percent. Thus this study examines the police response to child sexual abuse at the peak of the problem in the late 1980s (Finkelhor, 2008).

Before the mass-implementation of reporting laws, police handled most cases of child maltreatment. But with the vast increase in reported cases, states responded by expanding their existing social service systems to meet the new demands of child protection. These new child protection agencies began to receive and investigate most reports of child abuse and neglect, often without the assistance, or even the knowledge of the police or other community helping agencies. Child protective services (CPS) agencies assumed from the police the primary responsibility for child protection (Martin and Besharov, 1991). Typically, CPS agents would request police assistance only to stand guard while they placed a child into protective custody. As the only 24 hour community service agency, the police would sometimes take the initial report during nights or weekends, and if necessary, place children into protective custody. In those instances when police received the initial child abuse complaint, they would simply hand the case over to CPS as soon as possible. Their infrequent involvement in child abuse cases rarely involved any significant follow-up. For much of the 1970s and 1980s, police played only a small role in child sexual abuse. This system often failed to protect children adequately. The lack of communication, coordination, and cooperation between community helping agencies resulted in frustration, duplication of effort, jurisdictional disputes, weak investigations, and tragedies. Child protection

professionals began to realize that CPS cannot solve the problem of child sexual abuse alone – other community service agencies would need to share the responsibility for child protection. Many communities began to experiment with coordinated multi-disciplinary response teams. Within this framework, the police once again began to play an important role in child protection.

The police responded to these increased responsibilities in a slow and disjointed fashion. By the late 1980s, when the data for this study were collected, they were just learning how to respond well to child sexual abuse complaints, conduct proper investigations, safeguard child victims, and work with other community helping agencies. Though many police agencies implemented organizational reforms aimed at improving response to child sexual abuse (hereafter abbreviated as “CSA”) cases, critics argued that others were lagging behind (Maguire, 1993). Perhaps the biggest reason for the slow and disjointed response by police to the increasing demands of child sexual abuse was uncertainty among both police and other professionals about the proper role of police in CSA cases[2]. This uncertainty was rooted in an ongoing debate among child abuse professionals about the proper disposition of child sexual abuse cases. Harshbarger (1987), for instance, suggested that prosecution is the appropriate response regardless of whether the offender is related to the child because “there is absolutely no legal or moral justification for ignoring cases where the acts of sexual abuse are committed by a family member, while strangers are treated as criminals for committing similar acts of violence.”

Critics argued against this philosophy for two reasons. First, many human service professionals view the solidarity of the family as more important than punishing the offender in intrafamilial cases. Thus, they prefer family based-therapy, or some other type of negotiated pre-trial diversion. In one study of child sexual abuse cases, MacMurray (1988) found that 94 percent of the non-prosecuted cases in his sample resulted in at least one type of informal disposition, including the termination of the abuse. Second, others cited the negative effects of participation in the criminal justice system on child victims. They argued that prosecution results in “secondary victimization” (Avery, 1983) or “process induced trauma” (Belton and Belton, 1987).

The criminal justice system has responded to these concerns with a host of reforms designed to ease the role of child victims and witnesses, though these reforms were implemented unevenly across jurisdictions (Faller and Henry, 2000; Pence and Wilson, 1994; Martin and Besharov, 1991). Many jurisdictions established coordinated multidisciplinary teams (MDT’s) comprised of representatives from the many professions responsible for responding to child sexual abuse allegations. Most multidisciplinary teams were composed of a CPS caseworker, a police officer, and a prosecutor. Therapists, physicians, and child advocates were sometimes also included. Typically, the MDT received, screened, and investigated all reports of child sexual abuse (and sometimes other forms of abuse) in its jurisdiction. Jurisdictions that implemented multi-disciplinary teams reported a variety of positive effects, including increased communication, cooperation, and understanding between members of the different professions represented (Collinson, 1991; Hinzman, 1991; Martin, 1988; McPartland, 1984). Courts in some jurisdictions also responded to the special needs of child victims and witnesses by eliminating special competency requirements for child witnesses, permitting exceptions to the rule against the admission of hearsay evidence, allowing testimony via closed-circuit television or videotape, excluding spectators

from the courtroom, and providing "court appointed special advocates" to help children through the criminal process (Whitcomb, 1992a, b, c).

Research indicates that police officers and other criminal justice professionals tend to favor such formal remedies as criminal prosecution and punishment more than other child protection professionals, who often favor a less punitive approach such as rehabilitation or family therapy (Kelley, 1990; Saunders, 1987; Trute *et al.*, 1992; Wilk and McCarthy, 1986). Shireman *et al.* (1981) found that when police receive the initial abuse report, they are significantly more likely than social workers to remove children from the home and place them in an emergency shelter. In part, these differential response patterns may be a function of differential reporting patterns. Williams (1989) found that less serious day care sexual abuse cases tended not to be reported to the police, but instead were handled "extra-legally" by other agencies. Similarly, Shireman *et al.* (1981) discovered that although the majority of abuse cases reported to social workers were referred by mandated reporters, most of the police cases were reported by the public. Also, when the suspected offender is a stranger or non-family member, or when the case involves sexual exploitation or pornography, the police often investigate the case without the participation of other agencies (Martin, 1988; Martin and Besharov, 1991). Thus, police attitudes toward the proper disposition of CSA cases may be affected by their responsibility for handling more serious cases than other agencies.

These basic philosophical differences challenge the success of multidisciplinary teams. Indeed, Graves and Sgroi suggest that "because they abhor the punitive aspects of the criminal justice system, professionals from the fields of health, mental health, and social work often shy away from reporting cases of child sexual abuse to law enforcement authorities" (Graves and Sgroi, 1982, p. 309). Despite these professional differences, researchers have noted some similarities between professionals who respond to child sexual abuse cases. Saunders (1987), for example, concludes that on the whole, police officers are sensitive to issues of victim credibility and culpability in CSA cases. Trute *et al.* (1992) report that in spite of some marked attitudinal differences, their samples of police, child welfare, and community mental health professionals were consistent in their opinions on the widespread prevalence and damaging effects of CSA. Although professional differences may make it difficult to work together, many jurisdictions mandated joint law enforcement/CPS investigations of child abuse cases. In his sample of 607 police and sheriff's departments, Sheppard (1992) found that 94 percent conduct joint investigations of child maltreatment with CPS[3]. A greater percentage of smaller agencies (68 percent) than larger agencies (44 percent) felt that joint investigations were helpful. Although the number of contacts between CPS and law enforcement was greater in those areas that adopted a joint investigative model, research indicates that the overall number such contacts remains small, and CPS caseworkers continue to maintain primary responsibility for investigations (Tjaden, 1992).

These various challenges contributed to an uneven level of child sexual abuse case attrition among police agencies. This study explores whether differences in case disposition rates (arrest rate and founded rate) can be explained by differences in the context of the organization, its formal structure, and the specific structures established by the organization to deal with child sexual abuse[4].

### 3. The effects of organizational structure

Classical organization theory emphasized the role of structure as a determinant of organizational efficiency and effectiveness. Many of the concepts that are common in organizational theory today, such as differentiation, specialization and span of control, are rooted in classical "rational" approach to organizations (Scott, 1992). The classical approach viewed organizations as "closed systems" that were insulated from their environment. Max Weber's description of the "ideal type" bureaucracy, first published in 1921, formed the foundation for early organizational theory. Weber's rational-legal model was based on the assumption that an organizational structure which conformed to the bureaucratic ideal was the most efficient form of organization. The rational-legal model assumes that the formal structure of an organization determines the behavior of those working within it, and that the environment in which the organization is situated is either irrelevant or easily manipulable by administrators (Mastrosfski *et al.*, 1987).

The last three decades has seen a shift in organizational theory from the closed systems approach stressing formal internal structure, to an "open systems" approach which emphasizes the role of the environment as a determinant of organizational structures, processes, goals and outcomes. Open systems theories view organizations and environments as involved in a dynamic interdependent relationship (Scott, 1992). Because the organization is dependent upon the environment for survival, it must adapt to its own particular environment.

Structural contingency theory, for example, emphasizes the importance of environmental factors in shaping various aspects of the organization (Donaldson, 1995; Lawrence and Lorsch, 1967). Similarly, institutional theory (Crank and Langworthy, 1992; Meyer and Rowan, 1977) suggests that certain organizations adopt structural forms in which their administrative core is loosely coupled from their technical core (where the bulk of work is completed), thus acting as a buffer to shield the technical core from environmental scrutiny. The administration thus maintains "ceremonial conformity" without disturbing the actual work of the organization (Meyer and Rowan, 1977, p. 340). Under periods of tremendous environmental upheaval (political protests, for example), the organization becomes more tightly coupled and responds in a more substantive (less ceremonial) manner to environmental demands. Although theories on the effects of the environment on organizations vary widely, they share the essential notion that organizations exist in complex environments with which they must constantly interact. Environmental factors, "including the status and drift of general economic, political, and social conditions, the mood of customers and clients, the activities and strategies of other organizations in the environment, the quality of personnel available to the organization, the quality of raw materials, the value structure of the community, the degree of support from higher levels of government or industry, stipulations of pertinent tax law, and so forth" (Mohr, 1982, p. 186) each play a role in shaping organizations (Langworthy, 1986).

Organizations are complex entities whose features can serve conceptually as both independent and dependent variables (Maguire, 2003; Scott, 1992). A rich tradition in the sociology of organizations examines the impact of the contexts in which organizations are embedded on their formal structures (Kralewski *et al.*, 1985; Pugh, 1973). A related tradition explores the effects of both context and structure on the performance and effectiveness of organizations (Davenport, 1999; Gooding and Wagner, 1985; Slovak, 1986).

Until recently, there have been only scattered attempts to apply these principles to police agencies in a theoretically informed manner. The earliest and best known effort was James Q. Wilson's (1968) *Varieties of Police Behavior*, in which he outlines a constrained rational model of organizational effects. In essence, the police are constrained by local political culture to act within a certain "zone of indifference." Within these bounds, police administrators are essentially free to make decisions and implement policies as they wish. Mastrofski *et al.* (1987, p. 388) suggested that Wilson's theory falls in the middle of a continuum "of the extent to which the administrative apparatus is responsible for influencing police officer discretion." At one end, they argued, is the classic Weberian rational-legal model, and at the other end is the "loosely coupled" model described by institutional theorists. Heffron (1989, p. 8) argued that organization theorists have "come full circle," and debates still rage about which model should be the proper focus of analysis.

Following the lead of Wilson, several authors have examined the effect of bureaucratization on arrest probabilities. Smith and Klein (1983), for example, found that probability of arrest is greater in bureaucratized departments, and lesser in professionalized departments. However, organizational differences accounted for only about 3 percent of the variance in arrest decisions in their analysis. Similarly, Brown (1981) found that officers in larger, more bureaucratized departments were more willing to make arrests than officers in smaller departments, who were more lenient. On the other hand, in their examination of DUI enforcement in four police departments, Mastrofski *et al.* (1987, p. 398) found that "contrary to Brown's (1981) findings, the willingness to make DUI arrests decreased as department size and bureaucratization increased." Thus, based on research to date, the link between bureaucratization and arrest remains uncertain[5].

Others have examined the effects of a variety of organizational variables on assorted outcome measures. Cordner (1989) found, for example, that agency size has only a very small effect on investigative effectiveness, concluding tentatively that environmental variables have a greater impact than organizational variables. Similarly, in her analysis of the influence of organization and environment on arrest rates, Swanson (1978, p. 395) found that "organizational variables rank lower than environmental ones although their effects are not inconsequential." Despite three decades of intense research on the police, we still have very little idea about the effect of police organizational structures on police performance[6]. One practical reason that it may be useful to examine the effect of formal police structures on performance is that organizational structure tends to be more malleable than other organizational variables such as informal culture, context and environment. If structure impacts performance, for example, it may be possible to develop normative prescriptions for "better" structures. Indeed, Bayley (1992, p. 541) argued forcefully that:

The neglect of organization as a subject for analysis is our fault - police managers, policy analysts, and academic scholars who care about the police. The solution is to use organizational charts for more than getting around in a police organization; they must be treated as independent variables in empirical research. The slender results already obtained indicate that we will probably be surprised.

Only one study (Martin and Besharov, 1991) has assessed the impact of police organizational structure on child sexual abuse case outcomes, finding that neither number of officers in the department, nor organizational location of specialists, had an

effect on arrest rates, and that fewer cases are closed by arrest in agencies with specialized sexual abuse squads than in other agencies. Their analysis, however, was limited to qualitative impressions, bivariate analyses and descriptive statistics. Examining the effect of police structure on child sexual abuse cases may be a particularly fruitful line of analysis. Police departments that are not sensitive to the needs of child sexual abuse victims and their families risk traumatizing the child further. Furthermore, "a traumatized victim may reduce the likelihood of conviction" (Belton and Belton, 1987). Police organizations that are not structured to meet the special needs of child sexual abuse victims may discourage them from cooperating further in the preparation of the case. The failure of victims to cooperate in the preparation of a case often leads to a unique form of case attrition, in which cases are deemed as founded, but no further action is taken because police are unable to close the case.

#### 4. Data and methods

In 1988, seeking to explore the response of police and sheriff's departments to their expanding roles in dealing with child maltreatment, Martin and Besharov (1991) selected a random-sample of US municipal and county law enforcement agencies serving populations greater than 100,000. Of the 146 agencies contacted, 126 (86 percent) agreed to participate in the survey, and 122 completed surveys. Of the 122 survey participants, only 52 provided official agency data necessary to construct the two case disposition ratios for child sexual abuse cases that we examine in this study. Sample attrition of this magnitude raises justifiable concerns about sample selection bias. If agencies included in the analysis are systematically different than excluded agencies, the findings are not generalizable and may be biased. We checked for the possibility of sample selection bias but were unable to detect any meaningful differences between included and excluded agencies[7].

In order to examine general variations in police agency structure, data on departments in Martin and Besharov's data-set were merged with data from the same departments in the Law Enforcement Management and Administrative Statistics (LEMAS) data-set produced by the Bureau of Justice Statistics in 1987 (US Dept. of Justice, Bureau of Justice Statistics, 1987). The LEMAS series contains a great deal of information on police department structure, salaries, personnel, and equipment. Merging these two data sources enabled us to examine the effects of contextual variables, general organizational structure and specialized structure on case dispositions.

#### 4.1 Dependent variables

Researchers evaluating public-sector service organizations often wrestle with the problem of how to measure performance. Unlike private industry, in which the success of a business can be summarized using a single measure - net profit - public sector organizations often have no easy means of evaluating success (Maguire and Uchida, 2000; Wilson, 1993). Most informed observers agree that crime rates and arrest rates are poor measures of police output and efficiency in general (Ostrom, 1973; Wilson, 1993). However, since arrests by investigators are usually the product of a successful investigation (however cursory the investigation may be), arrest rates are often good indicators of investigative output. Due to the unique investigative process involved in

child sexual abuse cases, however, this standard investigative output measure alone is incomplete. Children often have poor communication skills, and thus it is sometimes difficult for them to explain to investigators what has happened to them. Even if they are able to communicate effectively, their credibility is often questioned (Whitcomb, 1992b, c). Though some scholars, professionals, and child abuse activists argue that children do not lie about their victimization (Faller, 1984; MacFarlane and Waterman, 1986), research indicates that children do sometimes make false allegations of child abuse (deYoung, 1986; Emans, 1988; Kaplan, 1990; Yates and Musty, 1988). In addition, children can be "led" to a particular conclusion based on the form of the question (Ceci and Bruck, 1995; Ceci and Friedman, 2000; Dale *et al.*, 1978; Leichtman and Ceci, 1995). Similarly, though the research is inconclusive (Loftus and Davies, 1984; Todd and Perimutter, 1980; White *et al.*, 1997), some scholars have suggested that children have poorer, less reliable memory skills than adults. Johnson and Foley (1984), for example, reported that children in their sample did not confuse perception or imagination with reality any more than adults, though young children did have difficulty discriminating what they had done with what they had thought of doing. Taylor and Flavell (1984, p. 1719) concluded that young children's grasp of the difference between appearance and reality "is precarious and easily influenced." Whitcomb (1992a) suggested that caution must be used when asking young children to identify a suspect from a lineup, because though they can recognize faces as well as adults, if the perpetrator is not present in the lineup, the child may attempt a guess.

Due to these communication and credibility issues, the first decision that the police must make in a child abuse investigation is whether the case is "founded" or "unfounded." If they have no information to make this determination, then the case remains open. With sufficient information, a case is designated as founded if the preliminary investigation reveals any indication that the report is legitimate. An unfounded case is automatically closed; a founded case will either be closed with an arrest, or by exception. An exceptional case is closed without arrest "even though the allegation is found to have merit" (Martin and Besharov, 1991, p. 17). Exceptional cases include those in which the victim or the victim's family refuses to cooperate in the investigation, the victim cannot communicate his/her victimization to the investigator adequately, the police arrange some sort of pre-arrest diversion, or there is insufficient evidence (Davies, 1986; DeJong and Rose, 1989) to proceed with formal prosecution. Agencies with higher founded rates and higher arrest rates have less case attrition. Thus the first dependent variable is the proportion of cases designated as founded, and the second dependent variable is the proportion of founded cases that are closed by arrest[8].

#### 4.2 Independent variables

Independent variables in this analysis fall into three general clusters. First, based on the frequently reported link in the organizational theory literature between context and structure, and context and performance, three indicators of organizational context are included in the analysis: size, demand, and region. Consistent with previous research, organizational size is measured using the total number of full-time employees working in the organization (Langworthy, 1986; Maguire, 2003). Because research has shown that the effects of organizational size are typically non-linear, characterized by diminishing returns, we use this variable in its natural logarithm form (Kimberly,

1976). Demand is measured as the number of calls-for-service divided by number of full time sworn officers. The demand variable serves as a rough proxy for the intensity of the demand placed on the agency by its environment. Finally, rounding out the cluster of organizational context variables is region. We adopted the standard four-category regional classification used by the FBI and the Census Bureau and created dummy variables to represent each region. Second, based on the large literature in structural organization theory (Donaldson, 1995; Langworthy, 1986; Maguire, 2003), we included five measures of global organizational structure: functional differentiation, vertical differentiation, occupational differentiation, administrative intensity, and formalization. Functional differentiation is a composite variable measuring the number of specialized units (out of a list of nine) in the organization[9]. This same measure has been used in numerous other studies of police organizational structure (King, 1999; Maguire, 1997, 2003). Because neither data set contains information on the number of hierarchical levels in the organization, we use a proxy for vertical differentiation that estimates the difference in social status between the highest and lowest levels in the organization. This variable is measured by computing the difference between the chief's income and the entry-level patrolman's income, divided by the patrolman's income (Langworthy, 1986; Maguire, 1997, 2003). Occupational differentiation is the proportion of civilian employees in the organization (Langworthy, 1986). Administrative intensity is the number of full-time sworn officers assigned to administrative or technical support functions, divided by the total number of full-time sworn officers[10]. It is an estimate of the proportion of employees working outside the technical core of the organization. Formalization is a composite variable that measures the number of agency functions (out of a list of eight) which are guided by formal written policy directives.

Third, based on evidence that the global structures of an organization are different from the specific structures used to accomplish specific kinds of work, we measure three specific organizational structure variables related to the agency's response to child sexual abuse cases[11]. A child sexual abuse specialization index was developed by summing seven variables measuring the presence or absence of certain policies or practices: pre-assignment training on child sexual abuse for specialist officers, current year (1987) training on child sexual abuse for specialized officers, specialized officers serving as consultants on child sexual abuse cases for other agencies, the use of videotaped interviews of child witnesses, the use of anatomically correct dolls, the use of a special interview room for children (often decorated in child-friendly themes), and the implementation of a specialized child abuse prevention program in schools. Higher scores on this index are intended to reflect a greater level of specialization in responding to child sexual abuse cases that should presumably have an effect on the outcomes of those cases. Next, based on the increasing number of joint police-CPS child abuse investigations, a composite measure of formal interagency cooperation and coordination was developed. It is a seven-item index comprised of dummy variables representing the presence or absence of agreements between police and external agencies for responding to child sexual abuse cases. These variables include whether there are agreements in place that specify procedures or policies for: notifying outside agencies about cases, obtaining medical examinations for victims, coordinating with the prosecutor, conducting joint investigations, holding joint meetings, specifying the responsibilities of each agency, and conducting investigations in schools. Finally, a

single indicator of the formalization of child abuse cases is included. It is a dummy variable measuring the presence of a formal written policy for dealing with child abuse cases. Table I provides descriptive statistics for each of the dependent and independent variables.

5. Analysis

5.1 Model testing strategies

Figure 1 illustrates the two conceptual models that were tested in this study: one for the founded rate and one for the arrest rate. If the data set being used in this study contained more cases, the ideal model testing strategy would have been to use simultaneous equation methods to test the whole model in Figure 1 at one time. However, the small sample size precluded this strategy and was an important factor in selecting a model-testing strategy. The small sample size resulted in two primary analytical constraints. First, the overall sample size for agencies with complete data on the two dependent variables is only 52, which limited our ability to test the model directly. The number of exogenous variables is simply too large relative to the number of cases. Thus some form of data reduction was necessary to narrow the pool of exogenous variables. Second, as is common with survey data, some of the data were missing for some of the cases. Even though the proportion of missing data in this data set is within normal bounds for research in this genre (about 7 percent), using the standard "listwise deletion" approach of discarding any case with missing data on any variable would have resulted in a sample size of only 29 cases. With a small sample size, it is vital to retain as many cases as possible, thus it is necessary to use a statistical procedure for addressing the missing data problem.

The founded rate model depicted in Figure 1 has 13 independent variables (if we specify three dummy variables to represent the four regions of the US); the arrest rate model in Figure 1 has fourteen. Estimating the effects of all these independent variables would result in a low variable-to-case ratio of about one to four, which is insufficient in terms of both power and precision. We took three steps to deal with this

Variable	Mean	Std. deviation	Minimum	Maximum	n
Northeast	0.135	0.345	0	1	52
West	0.250	0.437	0	1	52
Midwest	0.154	0.364	0	1	52
South	0.462	0.503	0	1	52
Size	774	891	152	5,630	47
Demand	349.5	250.3	73.6	1,495.7	41
Functional differentiation	4.71	2.03	1	8	45
Vertical differentiation	1.77	0.66	0.69	4.32	47
Occupational differentiation	0.26	0.13	0.08	0.61	47
Administrative intensity	0.23	0.08	0.00	0.36	47
Formalization	6.33	1.11	3	8	45
Specialization in CSA	4.52	1.65	0	7	52
Interagency partnerships for CSA	4.58	1.78	1	7	40
Formal policy for child abuse	0.69	0.47	0	1	52
Founded rate	0.86	0.12	0.39	1	52
Arrest rate	0.43	0.20	0	0.92	52

Table I.  
Descriptive statistics

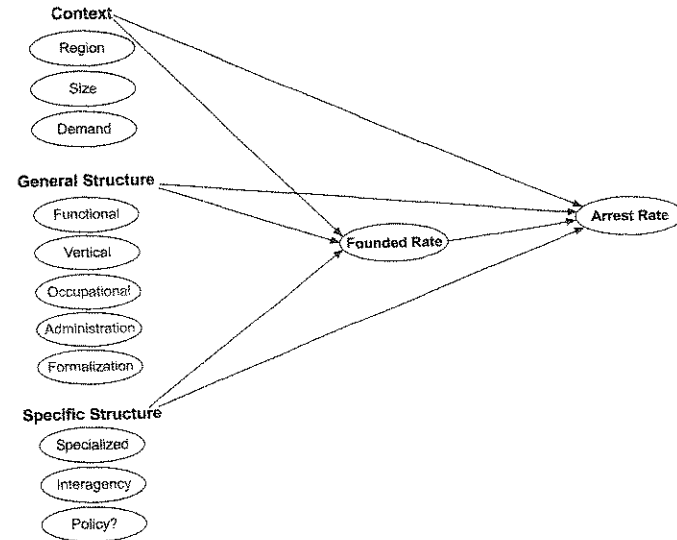


Figure 1.  
Conceptual model

problem. First, rather than including three variables for region, we included only one dummy variable: west versus other regions. Region is often treated as a proxy for innovativeness in agency-level studies of American police. Police agencies in the west are known for being more innovative and several previous studies have found that western agencies score more highly on measures of innovation adoption (Maguire *et al.*, 1997; Wycoff, 1994; Zhao, 1996). Thus, rather than using the standard approach of dropping one of the four region dummies and treating it as the reference category, we only include one region dummy variable for western region.

Second, we examined options for combining some of the general structural variables in ways that are substantively meaningful and consistent with previous research. Previous theory and research, for instance, has shown that organizational structure can be characterized as having two domains of variables: structural complexity (also known as differentiation) and structural control and coordination mechanisms (Maguire, 2003). Research has been more successful at explaining variation in structural complexity variables than in structural control and coordination variables. Complexity variables are analogous to skeletal structure in humans in the sense that skeletal proportions are a direct result of size. Indeed, the principal determinant of structural complexity in Maguire's (2003) national study of more than 400 US police agencies was organizational size, a finding consistent with previous research on police structure (Langworthy, 1986). The complexity variables in Maguire's (2003) study were highly correlated with one another and organizational size explained the lion's share of variance in structural complexity. Neither pattern was observed for the

structural coordination and control variables, which were more independent and had lower levels of explained variance.

Based on these insights from previous scholarship, we chose to carry out a principal components analysis on organizational size and three measures of structural complexity: vertical differentiation (height), functional differentiation (specialization), and occupational differentiation (civilianization). Two components were retained, with size and height loading strongly on the first, and specialization and civilianization loading strongly on the second. The correlation between the two components was not significantly different from zero although we chose an oblique rotation method (promax) that allowed them to be freely correlated[12]. We allowed the general structural measures falling within the domain of structural coordination and control mechanisms (administrative intensity and formalization) to remain in the model in their original form since no theory or previous research supports the idea of incorporating them into composites (Maguire, 2003).

Third, we also examined options for combining into a single composite the specific structural measures that agencies have put in place to deal with child sexual abuse cases. These included three variables: an index measuring the level of specialization in CSA, an index measuring the extent of interagency partnerships for dealing with CSA cases, and a dummy variable indicating whether the agency has a formal policy for child abuse cases. All three variables loaded on one principal component. Taken together, the three data reduction measures we employed reduced the number of independent variables from 13 to 7 in the founded rate equation and from 14 to 8 in the arrest rate equation.

Statistical methods for dealing with missing data in applied research have improved considerably over the past two decades and a variety of methods are now available. Some of those methods (such as full-information maximum likelihood) are not good options for small samples (Little and Rubin, 1987). We chose to use multiple imputation, a method that involves "imputing" or filling in missing values based on information derived from the other variables in the model (and, optionally, variables not included in the model). The particular imputation method we selected draws on work by Rubin (1987) and Schafer (1997) and has been implemented in software called NORM (Schafer, 1999). The procedure involves generating  $m$  imputed data sets in which missing values are replaced with imputed values, where  $m$  typically ranges from about 3-5. These data sets are then analyzed using standard statistical methods, and the separate results are then averaged using the rules developed by Rubin (1987) (Schafer and Olsen, 1998). The result is one set of parameter estimates, standard errors, and  $p$ -values "that reflect missing data uncertainty" (Schafer and Olsen, 1998, p. 547). Simulation research has shown that the imputation procedures in NORM work well even with small samples[13].

5.2 Testing the models

The first step in the analysis was to examine the effects of the independent variables on the proportion of cases designated as founded. The next step was to examine the effects of the independent variables, together with the founded rate, on the proportion of founded cases in which an arrest is made. Adding in the founded rate allows us to determine whether aggregated decisions about whether a case is founded affect arrest rates. This is clearly not an individual level analysis; therefore this study will not allow

inferences about individual level decision-making. However, using aggregate data on these decisions will allow inferences about whether agencies more or less prone to designate cases as founded are more or less likely to close cases by arrest rather than exception. Although Figure 1 specifies some indirect effects from the independent variables to arrest rate through founded rate, I did not test for these effects.

I used the EM algorithm available in NORM to generate maximum likelihood estimates of means and covariances (Schafer and Olsen, 1998). I then ran 500 cycles of data augmentation in NORM, producing an imputed data set at every 100th cycle for a total of  $m = 5$  imputations. Following imputation, I estimated separate OLS equations predicting founded rate and arrest rate. For each dependent variable, I ran the model five times, once for each imputed data set. The estimated coefficients and standard errors were retained for further processing in NORM, which uses the rules outlined by Rubin (1987) for combining the  $m$  separate estimates of each parameter into a single overall estimate. NORM generates output for each coefficient, including "the overall estimate  $Q$ , the standard error  $\sqrt{T}$ , the degrees of freedom  $df$  for the  $t$ -approximation, and the  $p$ -value for testing the hypothesis  $Q = 0$  against the two-sided alternative" (Schafer and Olsen, 1998, p. 569). The results for the founded rate equation are presented in Table II. Results for the arrest rate equation are presented in Table III.

5.3 Results

We ran the founded rate model on each of the five imputed data sets. The  $F$ -statistic for overall model fit was consistently small (range = 0.99 to 1.74) and non-significant (at the 0.10 level) in each case[14]. Adjusted  $R^2$  values ranged from 0.000 to 0.093. Overall,

Variable	$\beta$	SE	$t$	$p$
Intercept	0.817	0.109	7.50	0.000
West	0.006	0.048	0.12	0.906
Demand	0.000	0.000	1.00	0.317
Administrative intensity	-0.228	0.225	-1.02	0.309
Formalization	0.010	0.017	0.61	0.544
General structure component 1	-0.023	0.017	-1.34	0.182
General structure component 2	0.004	0.024	0.16	0.870
Specific structure component	-0.011	0.027	-0.42	0.679

Table II.  
OLS results for founded  
rate

Variable	$\beta$	SE	$t$	$p$
Intercept	0.902	0.271	3.32	0.001
West	-0.068	0.084	-0.081	0.420
Demand	-0.000	0.000	-0.029	0.779
Administrative intensity	0.149	0.404	0.37	0.713
Formalization	-0.019	0.036	-0.53	0.604
General structure component 1	-0.069	0.028	-2.44	0.015
General structure component 2	-0.040	0.034	-1.19	0.237
Specific structure component	-0.004	0.037	-0.10	0.921
Founded rate	-0.416	0.244	-1.70	0.089

Table III.  
OLS results for arrest rate



based on these results, we conclude that the explanatory variables that we examined in this study do not explain variation in the founded rate. This conclusion needs to be tempered against the small sample size, which limits the statistical power of the model. The practical effect is that the model only has sufficient power to detect fairly large effects; small effects are likely to be overlooked[15].

We also ran the arrest rate model using each of the five imputed data sets. The *F*-statistic for overall model fit ranged from 1.7 to 2.7 and was statistically significant (at the 0.10 level) in four of the five data runs. Adjusted  $R^2$  values ranged from 0.098 to 0.214. Overall, based on these results, we conclude that the independent variables jointly have an effect on the arrest rate for child sexual abuse. The findings presented in Table III show that the majority of the effect can be traced to two variables: the founded rate and the first general structural component representing organizational size and height. Agencies that designate a higher proportion of cases as founded have lower arrest rates. We will discuss this finding in more detail shortly, but it appears on the surface to represent a case filtering effect. A lower proportion of founded cases means only the best cases remain open and arrests are therefore more likely; a higher proportion of founded cases means more difficult cases remain in the caseload and arrests are therefore less likely. Of course this is mere speculation on our part; this interpretation can serve as a hypothesis for further theory development and testing. Larger, more vertically differentiated agencies also have lower arrest rates; this effect is independent of the effects of the proportion of cases designated as founded. One potential interpretation is that larger agencies are unable to dedicate the same degree of attention to child sexual abuse cases. These cases, as pointed out earlier, are very difficult to manage. Perhaps these cases get lost in the shuffle of larger, more structurally elaborated agencies. We will return to the interpretation of these effects in the discussion section. The remaining independent variables in the model did not have a statistically significant effect on arrest rate. Once again, this test ought to be considered conservative since the arrest rate model only had sufficient power to detect fairly large effects[16].

## 6. Discussion

The results of this study need to be interpreted within the context of the data and methods used to produce them. First, while the models estimated here included a number of theoretically informed predictors, the secondary data sets used in this study do not contain the universe of potentially influential variables. Mastrofski *et al.* (1987, p. 390) suggest that it is necessary to look at three conceptual elements when considering organizational effects: "the formal organization, the informal organization, and the environment." The present study examines the formal structures and portions of the environment, acknowledging that other factors need to be examined in future research. Though formal structures may be entrenched within organizations, they are of little value if not institutionalized by the individuals within the organization. The informal structure of an organization may be as influential as the formal structure. Of similar importance to the informal structure of the organization may be important features of the environment, including local political climate, citizen attitudes toward the police department, regional attitudes toward child sexual abuse, and other external influences. A measure of the percentage of police expenditures devoted to child maltreatment would be a good indicator of the agency's (or the local government's)

commitment to child protection. Similarly, the actual number of child protection specialists in an agency would be another valuable measure of agency devotion. Finally, although we made an effort to incorporate network effects into our models by including measures of the extent to which police agencies work with other agencies, one potentially fruitful line of research would be to take these agency-level network properties into account in more serious ways. Child sexual abuse investigations involve substantially more interagency coordination and cooperation than other types of criminal investigations. Previous research has found these network effects particularly strong for understanding police performance, especially for offense types like statutory rape that involve significant interaction between different agency types.

Second, the small sample size makes it difficult to include all theoretically relevant variables without jeopardizing the degrees of freedom of the model. It is often difficult to obtain a large sample size when studying organizations rather than individuals. There were only about 300 police departments in the USA which fit Martin and Besharov's selection criteria in 1987, thus this study sampled nearly one third of the population. Third, due to the sample size, the study used an ad hoc approach to model estimation that may have capitalized on statistical chance. A small sample size is the only reasonable justification for employing methods like this. Fourth, though initially a random sample, more than half of the responding agencies were excluded because they failed to provide sufficient statistical data for this analysis. This exclusion may have jeopardized the randomness of the remaining sample, though our diagnostic checks were unable to detect any evidence of sample selection bias.

Despite these potential pitfalls, the study found evidence that the rate at which police agencies designate child sexual abuse cases as founded is not influenced by the structural and contextual variables included in the analysis. Arrest rates are shaped strongly by the size and height of the organization and the proportion of cases designated as founded, but not by other features of the organization's structure. Why do larger and taller agencies produce lower arrest rates for child sexual abuse cases? I have no ready explanation for this finding. The most immediate explanations are that larger organizations are more structurally complex, more formalized, or are burdened with heavier demands from the environment. Yet, the analysis controlled for and discounted all of these potential explanations. This question clearly deserves further research attention.

Why do those agencies designating a larger proportion of cases as founded have lower arrest rates? One possibility might simply be less efficient case screening. In other words, agencies with higher rates of founded cases may not be screening out the weakest cases for further investigation, thereby diluting their investigative productivity. They may simply have busier and more challenging investigative caseloads, making it more difficult to generate arrests. On the other hand, those agencies eliminating more cases as unfounded may be engaged in a kind of cherry-picking in which they end up with less challenging investigative caseloads in which it is easier to make arrests. Secondary research using survey data does not provide sufficient perspective to sift between these explanations for the findings, therefore this interpretation is mere speculation. Comparative ethnography in police agencies of different sizes and different rates of founded cases will provide the kind of up-close-and-personal perspective that is needed to interpret the findings from these survey data.





11. We are limited here by the nature of the data available on this topic. The specific structures examined here are those that have been established to deal with child sexual abuse cases. Theoretically, parallel measures could be constructed to examine global and specific elements of structure. Yet, some of the concepts used to examine global structures do not apply to specific structures. For instance, while an organization can be functionally differentiated, it is unlikely that a specific function like child sexual abuse will be assigned to more than one functional unit. Similarly, though there may be a limited command structure within the unit assigned to handle child sexual abuse cases, the notion of vertical differentiation has less meaning in such a setting. The specific structural measures adopted here are those that presumably have a bearing on the ability of the organization to produce desirable outcomes with regard to child sexual abuse.
12. We used principal components analysis in this study merely as a data reduction tool to reduce the number of variables in the models being tested. The specifications chosen here should not be interpreted as implying the existence of latent underlying variables with theoretical meaning in the tradition of exploratory or confirmatory factor analysis. Instead the principal components should be thought of as statistically convenient composites.
13. Graham and Schafer (1999, p. 26) conclude: "... provided one has sufficiently strong effects, multiple imputation using NORM can be an excellent solution to the missing data problem, even with sample sizes as low as 50, even with as much as 50 percent missing from most variables, and even with relatively large and complex models."
14. Based on our small sample size, we set  $\alpha$  at 0.10 in this study in an attempt to balance the risk of making a type I error (concluding there is an effect when there is not) against the risk of making a type II error (concluding there is no effect when there is) (Kramer and Rosenthal, 1999). Small samples reduce statistical power. Adjusting the alpha level helps to improve power (thus reducing the likelihood of a type II error), but also increases the risk of a type I error.
15. Based on an alpha level of 0.10, statistical power of 0.80, seven predictors, and a sample size of 52, the founded rate model has the power to detect only moderately large effects with an effect size  $f^2 \geq 0.26$ . Recall that an effect size (Cohen's  $f^2$ ) of 0.02 usually indicates a small effect, 0.15 a medium effect, and 0.35 a large effect (Cohen, 1988). Put differently, the power to detect a medium effect ( $f^2 = 0.15$ ) in the founded rate equation is approximately 0.56, whereas the power to detect a large effect ( $f^2 = 0.35$ ) is 0.91.
16. Based on an alpha level of 0.10, statistical power of 0.80, eight predictors, and a sample size of 52, the arrest rate model has the power to detect only fairly large effects with an effect size  $f^2 \geq 0.275$ . The power to detect a medium effect ( $f^2 = 0.15$ ) in the arrest rate equation was 0.53; the power to detect a large effect ( $f^2 = 0.35$ ) was 0.89.

**References**

Avery, M. (1983), "The child abuse witness: potential for secondary victimization", *Criminal Justice Journal*, Vol. 7, pp. 1-48.

Bayley, D.H. (1992), "Comparative organization of the police in English-speaking countries", in Tonry, M. and Morris, N. (Eds), *Modern Policing*, Vol. 15, University of Chicago Press, Chicago, IL, pp. 509-46.

Belton, F.G. and Belton, S.R. (1987), *Working with Violent Families: A Guide for Clinical and Legal Practitioners*, Sage, Newbury Park, CA.

Bollen, K.A. (1989a), "'Cause' and 'effect' indicators", in Babbie, E. (Ed.) (Ed.), *The Practice of Social Research*, 5th ed., Wadsworth, Belmont, CA, p. 365.

Bollen, K.A. (1989b), *Structural Equations with Latent Variables*, John Wiley & Sons, New York, NY.

Bradshaw, T.L. and Marks, A.E. (1990), "Beyond a reasonable doubt: factors that influence the legal disposition of child sexual abuse cases", *Crime and Delinquency*, Vol. 36 No. 2, pp. 276-85.

Brown, M. (1981), *Working the Street: Police Discretion and the Dilemma of Reform*, Russell Sage Foundation, New York, NY.

Ceci, S.J. and Bruck, M. (1995), *Jeopardy in the Courtroom: The Scientific Analysis of Children's Testimony*, American Psychological Association, Washington, DC.

Ceci, S.J. and Friedman, R.D. (2000), "The suggestibility of children: scientific research and legal implications", *Cornell Law Review*, Vol. 86 No. 33, pp. 34-108.

Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed., Lawrence Erlbaum Associates, Hillsdale, NJ.

Collinson, N. (1991), "Police and inter-agency cooperation for the investigation and detection of sexual abuse of children", *International Criminal Police Review*, January, pp. 45-8.

Cordner, G.W. (1989), "Police agency size and investigative effectiveness", *Journal of Criminal Justice*, Vol. 17, pp. 145-55.

Crank, J.P. and Langworthy, R.H. (1992), "An institutional perspective of policing of policing", *Journal of Criminal Law and Criminology*, Vol. 83 No. 2, pp. 338-63.

Dale, P.S., Loftus, E.F. and Rathbun, L. (1978), "The influence of the form of the question on the eyewitness testimony of preschool children", *International Psycholinguistic Research*, Vol. 7 No. 4, pp. 269-77.

Davenport, D.R. (1999), "Environmental constraints and organizational outcomes: modeling communities of municipal police departments", *Police Quarterly*, Vol. 2 No. 2, pp. 174-200.

Davies, A. (1986), "The sexual abuse of children: cases submitted to a police laboratory and the scientific evidence", *Medical Science and the Law*, Vol. 26 No. 2, pp. 103-6.

DeJong, A.R. and Rose, M. (1989), "Frequency and significance of physical evidence in legally proven cases of child sexual abuse", *Pediatrics*, Vol. 31 No. 6, pp. 1022-6.

deYoung, M. (1986), "A conceptual model for judging the truthfulness of a young child's allegation of sexual abuse", *American Journal of Orthopsychiatry*, Vol. 56 No. 4, pp. 550-9.

Donaldson, L. (1995), *American Anti-Management Theories of Organization: A Critique of Paradigm Proliferation*, Cambridge University Press, Cambridge.

Emans, R.L. (1988), "Psychology's responsibility in false accusations of child abuse", *Journal of Clinical Psychology*, Vol. 44 No. 6, pp. 1000-4.

Falier, K.C. (1984), "Is the child victim of sexual abuse telling the truth?", *Child Abuse and Neglect*, Vol. 8, pp. 473-81.

Falier, K.C. and Henry, J. (2000), "Child sexual abuse: a case study in community collaboration", *Child Abuse and Neglect*, Vol. 24 No. 9, pp. 1215-25.

Finkelhor, D. (1986), *A Sourcebook on Child Sexual Abuse*, Sage, Beverly Hills, CA.

Finkelhor, D. (2008), *Childhood Victimization: Violence, Crime, and Abuse in the Lives of Young People*, Oxford University Press, New York, NY.

Gooding, R.Z. and Wagner, J.A. III (1985), "A meta-analytic review of the relationship between size and performance: the productivity and efficiency of organizations and their subunits", *Administrative Science Quarterly*, Vol. 30, pp. 462-81.

Graham, J.W. and Schafer, J.L. (1999), "On the performance of multiple imputation for multivariate data with small sample size", in Hoyle, R. (Ed.), *Statistical Strategies for Small Sample Research*, Sage, Thousand Oaks, CA, pp. 1-29.

Graves, P.A. and Sgroi, S.M. (1982), "Law enforcement and child sexual abuse", in Sgroi, S.M. (Ed.), *Handbook of Clinical Intervention in Child Sexual Abuse*, DC Heath, Lexington, MA.

Harshbarger, S. (1987), "Prosecution is an appropriate response in child sexual abuse cases", *Journal of Interpersonal Violence*, Vol. 2, pp. 108-9.

Heffron, F. (1989), *Organization Theory and Public Organizations*, Prentice-Hall, Englewood Cliffs, NJ.

Hinzman, G. (1991), "Cooperation key to success of child protection center", *The Police Chief*, February, pp. 24-7.

Humphreys, C. (1996), "Exploring new territory: police organizational responses to child sexual abuse", *Child Abuse and Neglect*, Vol. 20 No. 4, pp. 337-44.

Johnson, M.K. and Foley, M.A. (1984), "Differentiating fact from fantasy: the reliability of children's memory", *Journal of Social Issues*, Vol. 40 No. 2, pp. 33-50.

Kalichman, S.C. and Brosig, C.L. (1992), "Mandatory child abuse reporting laws: issues and implications for policy", *Law and Policy*, Vol. 14 No. 2, pp. 153-68.

Kaplan, J.M. (1990), "Children don't always tell the truth", *Journal of Forensic Sciences*, Vol. 35 No. 3, pp. 661-7.

Kelley, S.J. (1990), "Responsibility and management strategies in child sexual abuse: a comparison of child protective workers, nurses, and police officers", *Child Welfare*, Vol. LXXIX No. 1, pp. 43-51.

Kempe, C.H., Silverman, F.N., Steele, B.F., Droegemueller, W. and Silver, H.K. (1962), "The battered child syndrome", *Journal of the American Medical Association*, Vol. 181, pp. 107-12.

Kimberly, J.R. (1976), "Organizational size and the structuralist perspective: a review, critique, and proposal", *Administrative Science Quarterly*, Vol. 21, pp. 571-97.

King, W.R. (1999), "Time, constancy, and change in American municipal police organizations", *Police Quarterly*, Vol. 2 No. 3, pp. 338-64.

Kralewski, J.E., Pitt, L. and Shatin, D. (1985), "Structural characteristics of medical group practices", *Administrative Science Quarterly*, No. 30, pp. 34-45.

Kramer, S.H. and Rosenthal, R. (1999), "Effect sizes and significance levels in small-sample research", in Hoyle, R.H. (Ed.), *Statistical Strategies for Small Sample Research*, Sage, Thousand Oaks, CA, pp. 59-79.

Langworthy, R.H. (1986), *The Structure of Police Organizations*, Praeger, New York, NY.

Lanning, K.V. and Hazelwood, R. (1988), "The maligned investigator of criminal sexuality", *FBI Law Enforcement Bulletin*, September, pp. 1-10.

Lawrence, P.R. and Lorsch, J.W. (1967), *Organization and Environment: Managing Differentiation and Integration*, Harvard University Press, Cambridge, MA.

Leichtman, M.D. and Ceci, S.J. (1995), "The effects of stereotypes and suggestions on preschoolers' reports", *Developmental Psychology*, Vol. 31, pp. 568-78.

Little, R.J.A. and Rubin, D.B. (1987), *Statistical Analysis with Missing Data*, John Wiley, New York, NY.

Loftus, E.F. and Davies, G.M. (1984), "Distortions in the memory of children", *Journal of Social Issues*, Vol. 40 No. 2, pp. 51-67.

McPartland, K.C. (1984), "Sexual trauma team: the Norfolk experience", *FBI Law Enforcement Bulletin*, February, pp. 7-9.

MacParlane, K. and Waterman, J. (1986), *Sexual Abuse of Young Children*, Guilford Press, New York, NY.

MacMurray, B.K. (1988), "The nonprosecution of sexual abuse and informal justice", *Journal of Interpersonal Violence*, Vol. 3 No. 2, pp. 197-202.

Maguire, E.R. (1993), "The professionalization of police in child sexual abuse cases", *Journal of Child Sexual Abuse*, Vol. 2 No. 3, pp. 107-16.

Maguire, E.R. (1997), "Structural change in large municipal police organizations during the community policing era", *Justice Quarterly*, Vol. 14 No. 3, pp. 701-30.

Maguire, E.R. (2003), *Organizational Structure in Large Police Agencies: Context, Complexity, and Control*, State University of New York Press, Albany, NY.

Maguire, E.R. and Uchida, C.D. (2000), "Measurement and explanation in the comparative study of American police organizations", in Duffee, D. (Ed.), *Criminal Justice 2000*, Vol. 4, National Institute of Justice, Washington, DC, pp. 491-577.

Maguire, E.R., Kuhns, J.B., Uchida, C.D. and Cox, S. (1997), "Patterns of community policing in nonurban America", *Journal of Research in Crime and Delinquency*, Vol. 34 No. 3, pp. 368-94.

Martin, S.E. (1988), "Case studies report: the handling of child abuse in four jurisdictions", unpublished report, American Enterprise Institute, Police Foundation, Washington, DC.

Martin, S.E. and Besharov, D.J. (1991), *Police and Child Abuse: New Policies for Expanded Responsibilities*, National Institute of Justice, Washington, DC.

Mastrofski, S.D., Ritti, R.R. and Hoffmaster, D. (1987), "Organizational determinants of police discretion: the case of drinking-driving", *Journal of Criminal Justice*, Vol. 15, pp. 387-402.

Maxson, C.L., Little, M.A. and Klein, M.W. (1988), "Police response to runaway and missing children: a conceptual framework for research and policy", *Crime and Delinquency*, Vol. 34, pp. 84-102.

Meyer, J.W. and Rowan, B. (1977), "Institutionalized organizations: formal structure as myth and ceremony", *American Journal of Sociology*, Vol. 83, pp. 340-63.

Mohr, L.B. (1982), *Explaining Organizational Behavior*, Jossey-Bass, San Francisco, CA.

National Center on Child Abuse and Neglect (1988), *Study Findings: Study of National Incidence and Prevalence of Child Abuse and Neglect: 1988*, GPO, Washington, DC.

Ostrom, E. (1973), "On the meaning and measurement of output and efficiency in the provision of urban police services", *Journal of Criminal Justice*, Vol. 1, pp. 93-112.

Pence, D. and Wilson, C. (1994), *Team Investigation of Child Sexual Abuse: The Uneasy Alliance*, Sage, Thousand Oaks, CA.

Pugh, D.S. (1973), "The measurement of organization structures: does context determine form?", *Organizational Dynamics*, Spring, pp. 19-34.

Pugh, D.S., Hickson, D.J., Hinings, C.R. and Turner, C. (1968), "Dimensions of organization structure", *Administrative Science Quarterly*, Vol. 13, pp. 65-105.

Reimann, B.C. (1973), "On the dimensions of bureaucratic structure: an empirical reappraisal", *Administrative Science Quarterly*, Vol. 18 No. 4, pp. 462-76.

Rubin, D. (1987), *Multiple Imputation for Nonresponse in Surveys*, John Wiley & Sons, New York, NY.

Saunders, E.J. (1987), "Police officers' attitudes toward child sexual abuse: an exploratory study", *Journal of Police Science and Administration*, Vol. 15 No. 3, pp. 186-91.

Schafer, J.L. (1997), *Analysis of Incomplete Multivariate Data*, Chapman and Hall/CRC Press, London.

Schafer, J.L. (1999), "NORM: multiple imputation of incomplete multivariate data under a normal model, version 2", available at: [www.stat.psu.edu/~jls/misoftwa.html](http://www.stat.psu.edu/~jls/misoftwa.html)

- Schafer, J.L. and Olsen, M.K. (1998), "Multiple imputation for multivariate missing-data problems: a data analyst's perspective", *Multivariate Behavioral Research*, Vol. 33, pp. 545-71.
- Scott, W.R. (1992), *Organizations: Rational, Natural, and Open Systems*, 3rd ed., Prentice-Hall, Englewood Cliffs, NJ.
- Sheppard, D. (1992), "Study to improve joint law enforcement and child protective service agency investigations of reported child maltreatment: preliminary findings", paper presented at American Society of Criminology, November.
- Shireman, J., Miller, B. and Brown, H.F. (1981), "Child welfare workers, police, and child placement", *Child Welfare*, Vol. LX No. 6, pp. 413-22.
- Slovak, J. (1986), *Styles of Urban Policing: Organization, Environment, and Police Styles in Selected American Cities*, New York University Press, New York, NY.
- Small, M.A. (1992), "Policy review of child abuse and neglect reporting statutes", *Law and Policy*, Vol. 14 No. 2, pp. 129-52.
- Smith, D.A. and Klein, J.R. (1983), "Police agency characteristics and arrest decisions", in Whitaker, G.P. and Phillips, C.D. (Eds), *Evaluating Performance of Criminal Justice Agencies*, Sage, Beverly Hills, CA.
- Swanson, C. (1978), "The influence of organization and environment on arrest practices in major US cities", *Policy Studies Journal*, Vol. 7, pp. 390-8.
- Taylor, M. and Flavell, J.H. (1984), "Seeing and believing: children's understanding of the distinction between appearance and reality", *Child Development*, Vol. 55, pp. 1710-20.
- Tjaden, P.G. (1992), "The impact of joint law enforcement/CPS agency investigations in child maltreatment cases", Research Grantees Status Report, Center for Policy Research.
- Todd, C.M. and Perimutter, M. (1980), "Reality recalled by preschool children", *New Directions for Child Development*, Vol. 10, pp. 69-85.
- Trute, B., Adkins, E. and MacDonald, G. (1992), "Professional attitudes regarding the sexual abuse of children: comparing police, child welfare, and community mental health", *Child Abuse and Neglect*, Vol. 16, pp. 359-68.
- US Dept. of Justice, Bureau of Justice Statistics (1987), "Law enforcement management and administrative statistics, 1987", US Dept. of Commerce, Bureau of the Census, Inter-University Consortium for Political and Social Research, Ann Arbor, MI.
- Whitcomb, D. (1992a), "Accuracy of children's memories", research brief, Child Victim as Witness Series, Education Development Center, Newton, MA.
- Whitcomb, D. (1992b), "Children's credibility as witnesses", research brief, Child Victim as Witness Series, Education Development Center, Newton, MA.
- Whitcomb, D. (1992c), *When the Victim is a Child*, 2nd ed., US Department of Justice, Washington, DC.
- Whitcomb, D. and DeVos, E. (1995), "Criminal justice outcomes of prosecution of child sexual abuse: a case flow analysis", *Child Abuse and Neglect*, Vol. 19 No. 12, pp. 1431-42.
- White, T.L., Leichtman, M.D. and Ceci, S.J. (1997), "The good, the bad, and the ugly: accuracy, inaccuracy, and elaboration in preschoolers' reports about a past event", *Applied Cognitive Psychology*, Vol. 11, pp. 37-54.
- Wilk, R.J. and McCarthy, C.R. (1986), "Intervention in child sexual abuse: a survey of attitudes", *Social Casework*, January, pp. 20-6.

- Williams, L.M. (1989), "Licensing and criminal justice system intervention", in Finkelhor, D., Williams, L.M. and Burns, N. (Eds), *Nursery Crimes: Sexual Abuse in Day Care*, Sage, Newbury Park, CA.
- Wilson, J.Q. (1968), *Varieties of Police Behavior*, Harvard University Press, Cambridge, MA.
- Wilson, J.Q. (1993), "The problem of defining agency success", *Performance Measures for the Criminal Justice System*, Bureau of Justice Statistics, Washington, DC, pp. 157-64.
- Wycoff, M.A. (1994), *Community Policing Strategies*, Police Foundation, Washington, DC.
- Yates, A. and Musty, T. (1988), "Preschool children's erroneous allegations of sexual molestation", *American Journal of Psychiatry*, Vol. 145 No. 8, pp. 989-92.
- Zhao, J. (1996), *Why Police Organizations Change*, Police Executive Research Forum, Washington, DC.

**Corresponding author**

Edward R. Maguire can be contacted at: Maguire@american.edu

To purchase reprints of this article please e-mail: [reprints@emeraldinsight.com](mailto:reprints@emeraldinsight.com)  
Or visit our web site for further details: [www.emeraldinsight.com/reprints](http://www.emeraldinsight.com/reprints)