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FACTORs INFLUENCING THE IMPLEMENTATION OF RISK-ASSESSMENT TECHNOLOGY IN CHILD PROTECTIVE SERVICES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Graduate School of The Ohio State University

By

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* * * * *

The Ohio State University

1995

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College of Social Work
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To Patricia, McCarther, Lindsay, Glenn, and Lucille--

I love you and thank you for your love and support.
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CHAPTER I

INTRODUCTION

Rationale for the Study

The genesis of this study lies in three central domains: a personal desire to combat child abuse in the United States through an improvement in the current risk-assessment system, a desire to explore and contribute to the emerging concepts of implementation theory; and a desire to respond to the need for development and application of an implementation theory for the area of risk-assessment in Child Protective Services (Doueck, Bronson & Levine, 1992; Wald & Woolverton, 1990; Wilson, 1989; Pecora, 1989).

Implementation questions have been troubling program evaluators and implementation theorists for 15 years (Williams, 1976; Fullan & Pomfret, 1977; Patton, 1978) and Child Protective Services (CPS) risk-assessment researchers for at least the last six years (Hornby & Wells, 1989) but both groups have been stymied in their research efforts by the lack of an adequate evaluation theory (Doueck et al., 1992; Pecora, 1989). The current review of literature and the works of Albert Bandura in particular (Wood, Bandura, & Bailey, 1990; Evans, 1989; Bandura, 1989, 1986) suggest that social cognitive theory may meet the current need. Therefore, this study seeks to explore the utility of social cognitive
theory as a framework for a more complete theory of implementation. The research should provide useful practice information to persons working in the area of Child Protective Services, and should contribute to the current literature regarding implementation and social cognitive theory.

Definition of the Problem

An understanding of the problems outlined in this study is aided by a brief discussion of the topic from the following three introductory foci: the trend in current implementation research, the utility of social cognitive theory as a theory of implementation; and an overview of the nature of risk-assessment in the area of Child Protective Services (CPS).

The Trend in Current Implementation Research. One of the most important elements of any new program is its implementation. Implementation has typically been defined from two perspectives: (1) A process that includes the organizational and administrative factors that explain implementation success or failure. The goal of the implementation process is for the potential user to adopt the chosen technology or innovation (Palumbo & Oliverio, 1989; Bronson, 1985; Patton, 1978). (2) A second focus of implementation studies has centered on the fidelity of the implementation. The fidelity perspective examines the
outcome of the implementation process and attempts to measure the degree (or extent) of the implementation, (i.e. was the technology incorporated or the service innovation delivered as designed) (Palumbo & Oliverio, 1989; Patton, 1978; Fullan & Pomfret, 1977; Gross, Giacquinta & Berstein, 1971). Fidelity of implementation can be clarified by asking the question: "is the innovation being used by the intended audience for the intended purpose?" (Bronson, 1985, p.2).

This research is interested in both perspectives. The objective of this research is to determine the degree of implementation of a specific risk-assessment model; that is, to answer the question, "To what degree has the new risk-assessment technology been placed in service and incorporated by each member of a CPS agency as their method of achieving a final risk-assessment hypothesis?" Secondly, this research will examine the process of implementation; specifically, how the individual CPS workers perceived the implementation process employed by their independent CPS units, and, how these (cognitive) perceptions of process influenced the extent of their implementation of the risk-assessment model.

**The Need for Studies of Implementation Theory**

Basch and Associates (1985) suggest four reasons for undertaking implementation studies:

(1) improving understanding about the best techniques for promoting implementation, long-term maintenance, and further program dissemination; (2) providing accountability to agencies that have allocated
resources; (3) enhancing the validity of summative (outcome) evaluations; and (4) learning how to modify programs and policies in order to improve their effectiveness and application (Basch, Sliepevich, Gold, Duncan, & Kolbe, 1985, p.317).

Chen and Rossi (1989, p.303) support and clarify the need for implementation studies:

A program treatment can be completely transformed in the process of implementation. Evaluators have found that some programs were never implemented; others were placed in the hands of inappropriate personnel; and in others implementation effectively negated the program processes. Following experiences of this sort, there is now a consensus among evaluators that implementation should be included as part of evaluation activities.

The average social services administrator confronted with the problem of implementing a new program technology is faced with complex evaluative theorizing replete with disagreements that can usually be understood only if one has a considerable background in the evaluation area (Chen & Rossi, 1983; Rothman, 1980). A portion of the current difficulty is that most implementation theorizing has been constructed by persons primarily interested in policy analysis rather than program and technological innovation, a condition leading to a lack of clarification about program innovation issues. It has also been suggested that research on the implementation of new program technology will require new insights and methodologies (Chen, 1989; Palumbo & Oliverio, 1989; Majone & Wildavsky, 1984; Wildavsky & Browne, 1984; Sabatier & Mazmanian, 1979).
Most current implementation literature describes the need for theory, the gaps in theory (or total lack of theoretical formulation in the area), and the problems confronting the implementor. Consequently, the technical suggestions for appropriate implementation processes are vague and continue to focus on understanding and developing a basic theoretical perspective. Unfortunately, this theoretical deficit compounds the difficulties of social service administrators who are confronted daily with the problems of program failure, the introduction of new technology and the need for further innovation. Such a deficit also leaves the administrator and program evaluator with a complicated and often contradictory quasi-theory that does not offer direction for effective technological implementation. Therefore, a tested, concise, practice-focused theory of implementation would be of great benefit to responsible administrators and program evaluators (Patti, 1987; Poertner & Rapp, 1987; Patton, 1978; Williams, 1976).

This descriptive and exploratory study is an effort to aid in the construction and conceptualization of implementation in the area of risk-assessment technology in response to the stated needs.

**The Utility of Social Cognitive Theory as a Theory of Implementation**

The analysis of this study will draw on Bandura's social cognitive theory (1986) as a theory of implementation, which
holds that it is the superior cognitive capacity of human beings that determines how they will be affected by life experiences and incorporate new learning. The theory includes the following major constructs: humans are capable of self-regulation and are able to learn new skills and innovations from direct and vicarious experience. When learning new skills, anticipated consequence (forethought) and vicarious referents are more powerful to the cognitive being than direct consequence. The theory also states that rate of implementation, amount of effort expended to change, and degree of retained new learning is influenced by amounts and types of observational learning, enactive learning, motivation, and perceptions of efficacy (Bandura, 1989, 1986; 1986b). The elements of this latter theoretical construction are important considerations for implementation theorists and form the premise for this study.

Bandura suggests that the following six variables exhibit important influences on the rate and degree of implementation (these variables are discussed in more detail in chapters two and three of this study):

1. The attentional-informative approaches used to present the new technology, or program to the learner (Bandura, 1986).

2. The retentional and mastery modeling approaches used to teach the new model to the learner (Bandura, 1986).

3. The motivational-regulatory approaches used by management to motivate, regulate and maintain the behavior of learner/employee. These approaches include management’s use of creating anticipated
consequences, goal-setting exercises, problem-solving exercises, value-shaping exercises, and rewards and sanctions (Bandura, 1986).

4. The self-motivational approaches used by the individual worker or, the way the worker relates past experiences to the skills required by the innovation, and uses personal goal-setting and anticipation of rewards (agency or personal) in order to self-motivate, regulate, and maintain personal behavior (Bandura, 1986).

5. The self-perception of personal efficacy, usually termed self-efficacy and defined as the judgement of personal capability to produce a desired effect and the subsequent behavior of the person relative to that personal judgment (Bandura, 1986; Cervone & Peake, 1986).

6. Management-efficacy, which is more appropriately defined for this study as the worker's perception of management's efficacy; or the worker's perception of management's ability to implement the new innovation (Wood, et al., 1990; Bandura & Wood, 1989; Evans, 1989; Bandura, 1986).

The current study explores and assesses the utility of these premises as a framework for a more complete theory of implementation.

The Nature of Risk-Assessment in Child Protective Services

Overview and Importance of the subject. Risk-assessment has historically been conceptualized and practiced as an informal and individual process in the field of child protective services. The focus of the assessment effort has usually been directed at protecting an endangered child from further neglect and abuse, and has relied primarily on the experience and intuitive judgment of the individual caseworker. Consequently, the risk-assessment process has
been characterized by its inconsistent and troublesome nature (Friesen, 1990; Margolin, 1990; Wilson, 89; Tzeng & Jacobson, 1988; Turgi & Hart, 1988; Wells, 1985; Stein & Rzepnicki, 1984; Kadushin, 1972).

A trend since 1984 has been toward developing risk-assessment instruments and risk-assessment systems that can aid and support the individual caseworker and the child protection agency in case planning and decision making (Gleeson, 1987). This is an area of explosive growth. In 1987, twenty-nine states were involved in the process of developing some type of risk-assessment model or instrument (Hornby & Wells, 1989). Furthermore, Berkowitz indicates that by 1991, the number of state agencies in the process of implementing new models had increased to 45. An unidentified number of county level child welfare agencies have also started to use risk-assessment models (Pecora, 1989).

Risk-assessment systems have been expensive to develop and require extensive agency commitment and individual effort to implement (Nasuti & Pecora, 1993; Wald & Woolverton, 1990; Daro, 1988). And yet very few of these systems have been empirically evaluated. Daro (1988) asserts that the implementation of risk-assessment systems without evaluation is a sizable and significant problem. Daro’s (1988) position has been strongly supported by others:

Many agencies have acted prematurely, implementing risk-assessment instruments that have not been adequately designed or researched (Wald & Woolverton, 1990, p.484). Though little empirical evaluation has been done on the
validity of either screening criteria or risk-assessment indices, these types of procedures are increasingly implemented in CPS [Child Protective Services]... Until the validity and accuracy of these mechanisms have been rigorously tested, there is no certainty that these particular procedures are ameliorating the current problems facing CPS agencies (Downing, Wells, & Fluke, 1990, p.367).

Much work needs to be done to test interrater reliability...[and] it is more difficult to use risk-assessment throughout the casework process than it may initially seem (Hornby & Wells, 1989, p.57).

Major work remains to be done to define and measure the dependent variable (risk) and the independent variables ... which define the work of risk-assessment (McDonald et al., 1989, p.28).

**Definition.** A risk-assessment system/model in the area of child protective services is an attempt to translate present indicators of abuse into a future risk hypothesis, usually a prediction of future abuse. The use of these models is based on the assumption that gathering a broad range of accurate and relevant information on the child and family will result in more competent decision making and case planning; and henceforth, better case outcome. These models also assume that more competent case planning and decision making will result in increased child safety (Wilson, 1989; Pecora, 1991, 1989).

A risk-assessment model attempts to improve the objectivity of Child Protective Service evaluations through the use of assessment stages, an assessment instrument, and case documentation. Risk-assessment models are based on a philosophy or rationale, and include a system of data collection methods, and a set of screening, documentation,
and decision making procedures. Good risk-assessment models are set forth in detailed written explanations, procedures and policies (McDonald et al., 1989).

The Ohio Risk-assessment Matrix. The risk-assessment model chosen for examination in this study is the "Ohio Family Risk Assessment Matrix" developed by the Ohio Department of Human Services and introduced in a pilot study over the last two years (ODHS, 1994). The Ohio instrument (included as Appendix A) was developed and modified with extensive input by Ohio CPS workers and drew its theoretical base from the ACTION-Child At Risk Field (Action for Child Protection, 1986) and the Washington State Risk-assessment Model (WSDSHS, 1987).

Need for implementation studies in the area of risk-assessment. The current theorizing on risk-assessment implementation is incomplete and complex and this has resulted in a lack of clarity about conceptualization, utilization and measurement techniques. Consequently, most risk-assessment evaluations have been done from an atheoretical perspective (Wald & Woolverton, 1990; Wilson, 1989). This conspicuous absence of theory has greatly hindered the proper evaluation and interpretation of outcome data (Doueck et al., 1992; Wald & Woolverton, 1990; Wilson, 1989).

McDonald and Associates (1989) conclude that there is a great need for research in at least three areas of risk-
assessment in CPS: (1) evaluation of the implementation process; (2) outcome studies on the effectiveness of the risk-assessment models; (3) and continued instrument and model validation. McDonald’s position is supported by others:

The promise of risk-assessment will be fulfilled only when risk-assessment practice is a comprehensive decision making structure including mission statements, assessment tools, interpretive schemes (theories), case planning guidelines and structures for evaluating case outcomes (Wilson, 1989, p.102).

It has been recommended that any evaluation of risk-assessment implementation should examine the impact of such models on two levels: (a) the degree to which the model has been adequately implemented and (b) the impact on organizational processes and client outcomes (Doueck et al., 1992, p.644).

Finally, researchers should be careful to distinguish the risk-assessment tools from their implementation, and to study the quality of both (Olmstead, 1989, p.8).

Currently, the research on the implementation of risk-assessment models is only at the problem identification stage (Schene, 1989; Pecora, 1989; McDonald et al., 1989); we know very little about the effects of the implementation process on worker decisions and overall case management (Doueck et al., 1992; Pecora, 1991). Consequently, implementation evaluation is an area of significant problem and current concern (Doueck et al., 1992).

Case Outcome as a factor for consideration. Fraser and Associates assert that the promise of effective risk assessment in CPS will only be realized when risk-assessment practice includes structures for evaluating case outcomes
(Fraser, Pecora, & Haapala, 1991), and this position has been supported by Wilson (1989) and Downing and Associates (1990). "Case outcome" in the context of risk-assessment means—the caseworker's ability to predict the future status of the case and thereby affect the placement and well-being of the child. Case outcome is usually measured in the domains of record adequacy, and competency of case decision making (Doueck et al., 1992; Pietrzak et al., 1990; Magura & Moses, 1986; Stein & Rzepnicki, 1984).

Case outcome is not the common outcome measure for implementation studies (which has been defined as the fidelity of implementation), but, as previously noted, it may be an important variable related to risk-assessment implementation (Doueck et al., 1992; Wald & Woolverton, 1990; Wilson, 1989; Hornby & Wells, 1989). On the other hand, there are no empirical indications in the literature that suggest case outcome is actually related in any manner to implementation. However, it is conceivable that a CPS worker's perception of possible outcomes may impact implementation, in which circumstance the case outcome could be seen as an independent variable with an effect on the degree of implementation. It is also possible that the fidelity of implementation may influence case outcome; consequently, case outcome could be treated as a dependent variable. Or, it may be that the two variables have no relationship to each other. Therefore, the decision was made
by this researcher to include case outcome as an independent variable for the purpose of commencing the exploration of this relationship.

**Summary of the Rationale and Focus of the Study**

The validation of human service program assertions (even those employing outcome studies) is currently believed to be impossible without the addition of implementation research (Chen & Rossi, 1989; Scott & Sechrest, 1989; Palumbo & Oliverio, 1989; Basch et al., 1985; Starr, 1982, Dobson & Cook, 1980). However, the theorizing on implementation has been complex and incomplete, hindering conceptual lucidity and measurement design (Williams, 1976; McLaughlin, 1976; Patton, 1978; Majone & Wildavsky, 1984; Wildavsky & Browne, 1984; Heilman, 1989). Research on implementation of the present CPS risk-assessment models is further affected by the fact that both the models and the current evaluation process have evolved atheoretically (Wald & Woolverton, 1990; Wilson, 1989; Chen & Rossi, 1989), the literature lacks an adequate research framework (theory) and the current use of trial-and-error methodology has greatly hindered the proper evaluation and interpretation of risk-assessment outcome data (Doueck et al., 1992; Wald & Woolverton, 1990; Wilson, 1989; Chen & Rossi, 1989, 87, 83, 80; Fullan & Pomfret, 1977). Consequently, the high priority for research on a theory of
implementation for risk-assessment is strongly affirmed; for if "outcome" alone is the focus of a study it is very possible that a "negative or inconclusive outcome" may actually be an effect of inadequate implementation (Doueck et al., 1992; Chen & Rossi, 1989; Scott & Sechrest, 1989; Palumbo & Oliverio, 1989; McDonald et al., 1989; Basch et al., 1985; Starr, 1982, Dobson & Cook, 1980; Hall & Loucks, 1977).

**Objectives of the Present Study**

This explorative and descriptive endeavor uses quantitative social services methodology to survey the Ohio Child Protective Services workers involved in a ten county pilot study of the recently designed Ohio Risk-assessment Matrix (ODHS, 1994). The survey seeks to determine the extent of and reasons for the risk-assessment model's implementation by each Child Protective Services worker. The study also seeks to identify the "risk-assessment implementation process" used by each county Child Protective Services unit, as perceived by individual Child Protective Services workers. The study compares self-reported worker perceptions of the implementation process with the six key dimensions of social cognitive theory (Bandura, 1986) in an effort to discover whether social cognitive theory is useful as a practical theory for risk-assessment model implementation. Finally, the study seeks to determine if
there is a relationship between case outcome (as defined in the area of risk-assessment) and the extent of risk-assessment model implementation, and to define the nature of that relationship. The examination of the issues is accomplished through a review of case files and a survey of individual Child Protective Services workers.

**Research Questions**

The study explores the following six research questions:

1. Are the six dimensions of social cognitive theory useful to explain the implementation of risk-assessment technology in Child Protective Service units?

2. To what degree has the "Ohio Family Risk-assessment Matrix" been implemented by Child Protective Services workers in the pilot counties studied? (i.e., was the new risk-assessment technology placed in service and incorporated by each member of the Child Protective Services agency as their method of achieving a final risk-assessment hypothesis?)

3. Did membership in a particular county Child Protective Services unit have an effect on the implementation of the risk-assessment model?

4. What is the current case outcome rate for the CPS units involved in the pilot study?
5. Is case outcome related to degree of implementation, and if so, what is the relationship?

6. And finally, what factors influence the implementation of a risk-assessment model in a child protective services agency?

Further background on the issues of this study are included in the following chapters reviewing the related literature, describing the methodology used, and reviewing the results of the research.
CHAPTER II
THEORETICAL AND EMPIRICAL BACKGROUND

The research related to this proposal is drawn from five primary areas: 1) the history and extent of child abuse and neglect in the United States; 2) the development of risk-assessment instruments and models; 3) the emergence of the evaluation of implementation; 4) instrumental theoretical frameworks for the evaluation of implementation, including social cognitive theory; and 5) a discussion on the concept of outcome and its relationship to implementation.

Child Abuse in the United States

Child abuse and neglect has existed for centuries and the human race has made very little comment on it until recently. Western society finally prohibited families from beating their children to death in the 13th century, but allowed government and industry the leeway to exploit, punish and hang children until the turn of the twentieth century (Holland, 1988; Rivlin, 1985; Nagel, 1973). In fact, the industrialization of early America used child labor as a mainstay; the early American training school system for delinquent and orphan children was often financed by child labor contracted to private companies. This practice was not
framed as neglect or abuse until the American Prison Congress of 1874 (Holland, 1988; Nagel, 1973). The important construct from this historical reflection is that the current values of a society determine its social policies and what is viewed as its social problems. State and national governments did not view neglect and abuse as a significant social problem until the 1962 publication of an article entitled "The Battered Child Syndrome" by C. Henry Kempe and his Associates; despite the fact that the subject of abuse had generated extensive research and writing by pediatric radiologists since 1946 (Pfohl, 1977). In 1974, the United States Congress passed the Child Abuse Prevention and Treatment Act which provided funding for the National Center for Child Abuse and Neglect. The Act provided funding to state governments that would adopt the new federal guidelines for child abuse and neglect (P.L. 93-274, 1974), for the prevention and identification of child abuse/neglect and treatment programming.

The early solution to the problem of confirming abuse and predicting recurring maltreatment was simply to remove the child from the parents' home. Unfortunately, this practice often resulted in the child being removed from parental custody without appropriate determinations and legal safeguards. The child was also often placed and replaced in a series of foster homes. Many children were removed from their homes on the basis of "worker fear" because of the lack
of ability to predict re-injury. In simple terms, the Child Protective Services workers lacked the adequate diagnostic and predictive tools to make good decisions (Wilson, 1989).

In 1978, Congress amended the Child Abuse Prevention and Treatment and Adoption Reform Act. This amendment sought to eliminate long-term foster care for children by facilitating adoption and permanency planning for children with special needs (P.L. 95-266, 1978). This act and subsequent state and national laws provided funding mechanisms to combat "revolving door" foster care placements and provided a national focus for the issues of child abuse and neglect.

From a social perspective, the present scope of the problem is an estimated 2.4 million annual cases of neglect or abuse—many are cases of abuse and neglect simultaneously (Children’s Defense Fund, 1991; Daro, Casey, & Abrahams, 1990). There are also a documented one thousand child deaths by abuse annually, and ninety percent of abuse deaths are children under one year of age (Schene, 1991; Besharov, 1990; National Center on Child Abuse & Neglect, 1989). Child abuse and neglect is a tremendous and deplorable social problem that impacts the welfare of today’s children and the welfare of our future society when abused children become the emotionally-damaged adults of the next generation. Sometimes the issue of child abuse and neglect is treated as a social services problem, sometimes as an educational problem, sometimes a medical problem, and sometimes as a criminal
problem; unfortunately, it is a significant problem that belongs to all of these categories. The present abuse situation is so serious that the first report of the U.S. Advisory Board on Child Abuse and Neglect (United States Department of Health & Human Services, 1990) was entitled, *Critical First Steps in Response to a National Emergency*.

The monumental difficulty in combating the problem of abuse/neglect is based in the lack of ability to correctly determine if child neglect and abuse has actually occurred. Conversely, the hope for correcting abusive behavior is situated in the ability to correctly determine abusive acts and to predict the future risk to the child. All such factors important to the investigative and decision making process are presently centered in the hands of persons employed in the area of Child Protective Services, and the past focus of predictive effort has primarily relied on the intuitive judgment and level of experience of the individual caseworker. Level of experience is a constant problem in the CPS field where child protective services workers are usually entry-level practitioners and subjected to highly stressful work and working conditions. Consequently, the lack of adequate supplemental social service technology is an area of substantial current concern (Friesen, 1990; Margolin, 1990; Wilson, 1989; Tzeng & Jacobson, 1988; Turgi & Hart, 1988; Wells, 1985; Stein & Rzepnicki, 1984; Kadushin, 1972).
Risk-Assessment Instruments and Models

A recent and hopefully promising trend has been toward the development of risk-assessment models that can aid and support the individual caseworker and the child protection agency in case planning and decision making and reduce the risk of re-abuse. Risk-assessment models are based on causal hypothesizing, and the current systems are intended for predictive outcomes of dangerous client behaviors (i.e., recurring maltreatment). Once instituted the systems must operate in media sensitive and emotionally charged legal and political environments. Therefore, risk-assessment models are cautiously introduced with the strong expectation that CPS workers use them as they were intended to be used by the original designers; fidelity of implementation has become the major goal of the innovating governmental systems (Doueck et al., 1992; Pecora, 1991, 1989; Wald & Woolverton, 1990; Downing, Wells, & Fluke, 1990).

As stressed in the introductory statement, the trend since 1984 has been toward developing risk-assessment instruments and risk-assessment systems that can aid and support the individual caseworker and the child protection agency in case planning and decision making, and this has been an area of explosive growth. As the number of systems rapidly increase, the important emerging question has become: Are the systems worth the effort? The use of risk-assessment models has been asserted to be an area of
significant potential benefit to the field of child protective services (Doueck et al., 1992; Schene, 1989; English, 1989; McDonald et al., 1989; Olmstead, 1989; Tatara, 1988, 1987; Miller, Williams, English, & Olmstead, 1987); but the question cannot be answered without program and implementation evaluations (Doueck et al., 1992; Wald & Woolverton, 1990; Downing, Wells, Fluke, 1990; Daro, 1988; Olmstead, 1989; McDonald et al., 1989; Wilson, 1989).

Consequently, there is a significant need for research in the following areas: effectiveness (outcome) of the various risk-assessment models; prediction of future physical and/or sexual abuse; prediction of future neglect; validity of the psychometric instruments utilized; evaluation of the implementation process; and research in how to appropriately evaluate implementation of these models (Doueck et al., 1992; Schene 1989; English, 1989; McDonald et al., 1989; Olmstead, 1989). The latter request for the development of appropriate implementation research methodology has stimulated significant concern and is an interest in the current work (Wald & Woolverton, 1990; Downing, Wells, & Fluke, 1990; Hornby & Wells, 1989; Pecora, 1989; Daro, 1988).

The Emergence of Implementation Evaluation

One of the most important components of any new innovation is the method of its implementation. "Implementation is not simply an extension of the planning
and adoption processes; it is a phenomenon in its own right" (Fullan & Pomfret, 1977). This aspect of evaluation was usually overlooked until the late 1970's either because it was difficult to conceptualize or because it was assumed that what an organization set out to do when it initiated a new program would simply happen. In other words, it appeared to be an assumption that the innovation would move from conceptualization to practice as planned and the end product would correspond to the original conceptualization. This assumption was labeled the "black box" theory of implementation, a theory that envisioned an innovation entering one side of the box (the program) with the consequences of the new innovation exiting directly from the other side, untouched by an agency's (or worker's) ability and desire to put the program in place (Fullan & Pomfret, 1977; Weiss, 1972).

The "black box" perspective was often used by evaluators who concerned themselves only with designated outcomes and who never questioned what was going on in the "black box;" that is, they were unconcerned about processes inside the program (Weiss, 1972). Only recently have researchers and practitioners placed emphasis on the idea that the outcomes and apparent consequences of an innovation may have been the result of some other dynamic; and, in fact, have suggested that the planned innovation may not even have been

The evaluation of implementation theory and methodology is important: (a) to help determine why so many educational and social programs fail to become established or successful (Fullan & Pomfret, 1977); (b) to separate implementation from other confusing aspects of the change process such as planning, adoption decisions, and determinants of innovation (Fullan & Pomfret, 1977; Palumbo & Oliverio, 1989; Chen, 1989); and (c) to determine if an innovation has actually been introduced to the situation being studied. "We do not know what has changed unless we attempt to conceptualize and measure it directly" (Fullan & Pomfret, 1977; Pietrzak, Ramler, Renner, Ford, & Gilbert, 1990).

After an agency has selected the program to be implemented, an evaluation of program implementation determines the extent to which the implemented program meets the description formulated in the planning decision (Alkin, 1972, p. 111).

The importance of studying implementation is underscored by the following two conclusions offered by modern day program evaluators: (1) It has been found that programs are not being implemented as they were intended by their designers and it is crucial that implementation be attended to. In practice many programs look drastically different from their plans, policies, and procedure books (Williams, 1976; Chen & Rossi, 1989). (2) It is important to know whether a program is effective after it is properly...
implemented, but it is first necessary to know if the program was indeed properly implemented. Human service shortcomings consist of two parts: failure of implemented programs to attain the desired results and failure to implement the policy in the program (Patton, 1978). Williams, in fact, emphatically states that the "lack of concern for implementation is currently the crucial impediment to improving complex operating programs" (Williams 1976, p.276).

In summary, the fact remains that when outcomes alone are evaluated without adequate knowledge of the degree of implementation the results will not provide administrators, policy makers, or consumers with the reason for the results, positive or negative. Consequently, the need to evaluate the implementation of new social service technologies and programs remains as an important research area (Dobson & Cook, 1980; Patton, 1978; Weiss, 1972).

The Emerging Concept of Implementation. The world and its truths may simply exist, but facts as "known" (determined) by human beings do not exist independent of their observations (Kuhn, 1970). The social sciences, like the physical sciences, typically give credence and priority to research activity and observations categorized as "theories" (Bickman, 1987; Scaff & Ingram, 1982).

Given this starting point, the question that must be asked is not whether 'theories' influence what we see, but rather how they influence our observations.... the question is not whether we should adopt or should have
a theory at all—eventually we will, whether intentionally or not—but rather what theory should we embrace, for what purposes, with what intentions, as a result of what commitments, and in relation to which contexts of inquiry (Scaff & Ingram, 1982, p.235-36).

Formal research theory in the realm of program innovation and implementation is in its infancy, and researchers are warily testing uncharted waters.

The study of implementation is becoming a growth industry; tens, perhaps hundreds, of studies are underway now. Yet researchers are visibly uneasy. It is not so much they expect to discover all the right answers; they are not even sure they are asking the right questions (Majone & Wildavsky, 1984, p. 163).

As researchers continue to construct the meaning of implementation the following five areas are focal points of activity and interest:

Effort evaluation, or the assessment of input regardless of output. This equals answering the questions of "What did you do," and "How well did you do it?" (Patton, 1978; Suchman, 1972). This type of evaluation is accomplished by inventories and checklists and is often referred to as monitoring. Monitoring has often been the agency process that most closely resembles implementation evaluation, but monitoring has all too often focused on input in a static sense (Williams, 1976).

Process evaluations focus on "Why" things happen the way they do. Process searches for an explanation of the success or failure and/or the factors causing change and facilitating or impeding the implementation of the program. Process evaluations include the perceptions of persons involved with
the program (Patton, 1978). Process evaluation is often formative evaluation and is particularly useful in identifying discrepancies, strengths, and weaknesses that would not be apparent after the conclusion of a program (Kaufman & Thomas, 1980).

Treatment specification involves identifying and measuring the effects of the program: "This means identifying the independent variables that are expected to affect outcomes (dependent) variables" (Patton, 1978, p.167). This area covers program theories and goals, outcomes and the discovery of causal events (Pietrzak et al., 1990; Patton, 1978; Williams, 1976).

A fourth area of some interest is that of planned variation or the "comparison" of the implementation of an innovation with planned differences in two different settings. The compelling logic of planned variation rests in the viewpoint that the scientific model of hypothesis testing often leads to findings of no difference and just as often degenerates into quasi-experiments. However, rather than abandoning scientific methodology the solution may be to initiate the same innovation or program twice with a planned difference and then to compare the results. The purpose of a comparative implementation is to pinpoint and overcome the following four common reasons for program failure: (a) the model may have been inadequately conceptualized or understood by the implementors; (b) the model may have been changed by
the implementors; (c) the implementors may have used inadequate training or monitoring procedures; or, (d) the model may have been understood, but actively resisted by one or more groups of program staff (Weikart & Banet, 1976).

Finally, Fullan and Pomfret (1977) argue for studies of the fidelity of implementation in combination with or separate from the process perspective, previously discussed. The fidelity perspective focuses on the quality and quantity of role changes in the organization, and defines degree of implementation as—the extent of change in staff behaviors to become congruent with the behavior patterns needed by the innovation (Fullan & Pomfret, 1977; Gross, Giacquinta, & Berstein, 1971). Their approach breaks the new innovation into cognitive, physical, and behavioral categories and seeks to measure whether the categories actually exist in the staff behaviors and the environment of the program.

These five areas of focus in "implementation" research, although general areas of concern, do not represent all areas of interest and should not limit theoretical construction at this point in time. "Scholars are now aware of the need for theory whether understood as a model, analytic framework, or conceptual scheme—to define and explain the nature, formulation and effects of an area of study" (Scaff & Ingram, 1982, p.236). However, much "theorizing" about implementation models is conducted daily in the practice world and non-scientific experiments are conducted every day.
Implementation schemas are also used by scholars to implement programs to test clinical theories without much formal thought as to how an innovation should really be implemented. Consequently, implementation theory as used in this study adopts the position of Scaff and Ingram (1982) as a definition of the term "theory":

We propose to use "theory" loosely to mean any set of abstract generalizations for organizing, seeing and explaining the world. We do not attempt to distinguish theory from other closely related forms, such as "conceptual scheme," "framework," "model," and the like. For the purposes of this discussion it is sufficient to think of "theory" as distinguished from "fact" (p. 247).

**Instrumental Literature in the Area of Implementation Theory**

Scaff and Ingram (1982) outlined the problem facing implementation researchers today; specifically, they stress that while there has been much thinking on the subject there is still a lack of a good general theory. Consequently, it is of value to review the concepts presented in the foundational implementation literature.

**Early Reflections on Implementation Research.** Williams (1976) wrote one of the earliest papers on the analysis and assessment of implementation in which he defined implementation as "the stage between a decision and operations" (p. 268). The intention of the paper is to call for research on implementation and identify the problems that were frustrating and would continue to cause frustration to
researchers. Williams stated that his paper would be "long on issues and short on solutions" (p.271), and yet his early delineation of probable areas of inquiry became quite prophetic of the state of implementation theory today.

Williams argued that implementation research should be concerned with process and be performed as an aid to decision makers (i.e., it should not wait for the program to fail). He continued that even though there is a paucity of knowledge about implementation theory, the subject area is too important to forgo research on it:

It is useful to distinguish between an idea that was put in place properly and did not work and an idea that was not tested because it was not actually implemented properly (p.275).

Williams believed that implementation research should be involved with inputs--an element or characteristic of the program; outputs--organizational changes (physical or behavioral) derived from the innovation inputs; and outcomes --changes in the clients or staff members participating in the project. Williams (p.289) also agreed with other evaluation researchers that bargaining, competition, and straightforward (positive and negative) sanctions appear to improve the chance of implementation fidelity (Pincus, 1976; McLaughlin, 1976; Levine, 1972). Williams' major contribution was the compilation of a series of important questions about implementation that triggered the future discussion of other authors.
Williams' work was followed by that of Fullan and Pomfret (1977), who attempted to construct one of the earliest human service theories of implementation and concluded that implementation evaluation should encompass the assessment of change in at least the following five areas: procedures and materials, organizational structure, staff roles/behaviors, staff knowledge and understanding, and value internalization. They further suggested four areas for measurement as a step toward a theory of implementation: characteristics of the innovation, strategies of implementation, characteristics of the adopting unit, and characteristics of the macro-sociopolitical units (such as design methodology, incentive systems used, evaluation methods proposed, and the political complexity of the organization).

Fullan and Pomfret's benchmark article was complemented by Hall and Loucks' (1977) conceptualization of an elementary implementation theory and measurement procedure to determine levels of use (LoU) for a new innovation. Their model was theorized to be generic to different innovations, but the research was based on the assumption that the primary unit of implementation would be an individual implementor (in their study an individual classroom teacher or professor). Hall and Loucks used an ethnographic methodology to explore the Level of Use with each participant. They organized their theory into a "matrix" containing seven levels of "user"
behavior and eight levels of "use of the innovation" accompanied by the "individual users" cognitive defining decision points.

Patton added depth to the subject with a major work in 1978. Patton discussed the need for evaluators to focus on implementation as part of the evaluation process by summarizing that:

it is important to know whether or not a program is effective after it is properly implemented, but to answer that question it is first necessary to know whether or not the program was indeed properly implemented (p.150).

Patton points out that the failure of human service programs in the 1960's and 70's was so common that an entire issue of the serial Evaluation [Spring, 1974] was devoted to the area of human services shortfall. This shortfall was defined by Lynn and Salasin (1974) as:

...a large and growing gap between what we expect from government supported human service systems and what these systems in fact deliver (p.4).

Patton argues, that programmatic shortfall is composed of two situations:

(1) failure of implemented programs to attain desired outcomes and (2) failure to actually implement policy in the form of operating programs (p.151).

Patton further states that social science research is preoccupied with outcome evaluation and has given little thought to what type of evaluation information is actually useful. He concludes that outcome research provides little to guide decision makers in the processing of results.
Consequently, Patton offers the following general and specific thoughts on implementation theory. Implementation research should measure outcome, but should be interested in what is in the "black box" (i.e., what is going on in the program). Evaluation should begin with an examination of the following questions: (1) Does the program actually exist? (2) What is the definition and purpose of the program? (3) What is the end result supposed to be like? (4) What is the power structure of the program? (5) What are the program's routines? (6) Is there a theory of implementation being used by the management? (7) What is the implementation plan? (8) What is the degree of program implementation--with the object being performance not conformance? and, (9) What is the focus of the implementation?

Most important for the context of this research, Patton (1978) agrees with Hall and Loucks (1977) that implementation evaluation should be concerned more with the "deliverer" of the innovation than the "delivery system" (the program). Patton offered that implementation can be measured by changes in participant attitude, skill, or behavior; and/or by determining what goals or part of the innovation or technology was changed to accommodate staff needs or desires. Patton's general thoughts on implementation theory are supplemented with an orientation of three specific patterns from which to choose: the effort approach, the process approach, and the treatment specification approach.
Patton's *Effort Approach* consists of making an inventory of program operations in relationship to the program's design by considering such things as time, activities, staff commitment, availability of materials, resource allocations, and media and promotion techniques. His *Process Approach* focuses on why things are happening the way they are. What are the internal dynamics and actual operations? (That is, "How the outcome" is produced rather than "what outcome" is achieved.) This process approach is both a quantitative and qualitative approach that focuses on formal activities, informal patterns, consequences observed, and the perceptions of the staff. Finally, Patton's *Treatment Specification Approach* examines what is supposed to be an effect (i.e., what is the impact of the independent variables upon the dependent variable(s)? and, what is the agency's social-ecological environment?). The *Treatment Specification Approach* deals more specifically with questions like: How are goals attained? What are the program components? Who are the people? What procedures are used? How is the treatment operationalized? What is the social climate? What is the management style? What is the communication style? and, What is the level of implementation?

**The Work of Albert Bandura**

While evaluation theorists were debating the components of implementation theory, a second approach to the subject
was being constructed by psychologist and learning theorist Albert Bandura (1971, 1965). Bandura viewed the implementation of any innovation as the learning of an individual skill, and during the period of 1965-1986 wrote over 90 research articles on the subject (Evans, 1989). In 1986, Bandura reconceptualized his version of social learning theory (Bandura, 1971, 1965) as social cognitive theory and began to study implementation from the point of management and personal efficacy and framed implementation as a cognitive issue. When examined, Bandura's work contains all of the premises of Williams (1976), Fullan and Pomfret (1977), Hall and Loucks (1977) and Patton (1976). (Please refer to Appendix B).

Bandura's present social cognitive theory states that the superior cognitive capacity of human beings determines how they will be affected by life experiences; it is this cognitive capability that also creates the direction of their future choices and actions. More explicitly, Bandura states that, "the capability for intentional purposeful human action is rooted in cognitive activity" (Bandura & Cervone, 1983).

A premise of the current work is that social cognitive theory offers insight into implementation; that is, that implementation is predominately the cognitive activity of personal choice. This area of choice draws from the instrumental constructs of Bandura that humans are able to choose and are capable of self-regulation. Choices and
actions are affected by forethought (anticipated consequences) and vicarious referents, both are cognitive activities. Bandura also asserts that vicarious referents and forethought are more powerful to the "cognitive being" than direct consequence (this is a major departure from the traditional stimulus-> response-> consequence schema).

Implementation is seen as learning and is also seen as a choice to participate and is therefore affected by the major factors that influence acceptance, learning, and choice, (i.e., the attentional-informative approaches used to present the new model, the retentional and mastery modeling approaches used to teach the new model to the learner, the motivational-regulatory approaches used by management, the self-motivational approaches used by the individual learner/worker and the individual implementors perception of self-efficacy, and management-efficacy (Wood, et al., 1990; Bandura & Wood, 1989; Evans, 1989; Bandura, 1986).

Self-efficacy and personal action are seen as bi-directional and both are influenced by the present environment, termed by Bandura (1986) as "triadic determinism." Bandura posits that the amount of effort expended to implement a new behavior and amount of new learning retained as well as the rate of implementing a new behavior is strongly influenced by personal perception, experience and the six social cognitive constructs outlined
earlier (Miller, 1993; Grusec, 1992; Bandura 1989, 1986, 1977, 1971). More specifically, the six factors that influence new learning are viewed as the six major variables that govern the acceptance and implementation of new programs and the learning of new skills required by the individual worker—the deliverer of service (Bandura, 1989, 88, 86, 86b, 77, 71, 65; Bandura & Wood, 1989; Evans, 1989; Wood et al., 1990). Consequently, it is posited that these six variables emerge as the most important considerations for implementation theorists and form the premise of this exploration.

Examined separately, the first is the attentional-informative influence; this variable is viewed as the specific composition of the approaches used to present the new model to the implementor (learner/deliverer of service). Effective approaches could include designing the new innovation in a way that makes sense to the worker, and the use of symbolic conditioning, emotion arousing presentations, and verbal and visual cues to capture the attention of prospective implementor and to shape acceptance of the new technology, program, or learning experience (Bandura, 1986).

The second variable is the use of retentional and mastery modeling approaches—defined as the process or form in which the model is attempted to be taught to the implementor in an effort to aid skill building and retention. These approaches include the use of positive exemplary
mastery modeling, team planning and teaching, symbolic presentations, verbal presentations, imagined models, cognitive rehearsal, and simulated conditioning to aid in teaching, learning, and retention.

A third variable is seen as the use of motivational-regulatory approaches by management to influence acceptance and action (i.e., implementation). These influences include the way in which management relates past agency experiences and anticipated rewards in order to motivate, regulate, and maintain employee behavior. These approaches include management’s process of creating anticipated consequences and use of goal-setting exercises, problem-solving exercises, value-shaping exercises, rewards for positive performance, sanctions for negative behavior, and programs for stress reduction and social support. These motivational-regulatory approaches are consciously used by management to motivate, regulate, and maintain employee behavior. Bandura postulates that it is the predictive value of these cognitive incentives (as used in the local environment) that make them effective motivators (Bandura, 1986, 1971, 1965).

The fourth variable affecting rate and degree of implementation is the use of self-motivational approaches by the individual implementor to influence personal behavior. This variable may be defined as the way the worker relates past experiences to the request for implementation, and uses personal goal-setting and anticipated rewards in order to
self-motivate, regulate, and maintain personal changes in behavior.

The fifth influence (variable) is the self-perception of personal efficacy, usually termed self-efficacy. Self-efficacy is concerned with personal judgments about how well one can organize and execute courses of action required to respond to prospective situations containing many ambiguous, unpredictable, and often stressful elements (Bandura 1986, 1977; Bandura & Cervone, 1986). Self-efficacy has also been defined as the judgment of personal capability to produce a desired effect and the subsequent behavior of the person relative to the judgment (Cervone & Peake, 1986).

Bandura asserts that self-referential thought is the important mediating influence between accumulated knowledge and future action. Self-referential thought is the reason that people either act or do not act in optimal ways even when they know what to do. Therefore, in the context of this study, perceptions of self-efficacy are viewed as the key independent variable that affect the process and degree of implementation.

Self-efficacy should not be confused with the similar term self-concept, which seeks to describe a composite view of self and is usually measured by comparing a perception of oneself with a set of descriptive statements. Nor, should self-efficacy be confused with the term self-esteem, which pertains to how the attributes of a person may be valued by.
their culture and how a person thinks or believes their behavior compares to their self-set standard of worthiness. Self-efficacy is a domain-specific personal judgment of personal capability (Evans, 1989; Bandura, 1986, 1977; Schunk, 1986; Weinberg, Gould & Jackson, 1979).

The principal aspects of self-efficacy are choice, motivation, and use of cognitive resources. People choose to do the things they think they have the potential to do (Bandura, 1986, 1977). "Choices have a profound effect on personal life paths" (Evans, 1989, p.53). Choices are the first step in great achievements and are also a determinate of which personal potentialities will be developed or remain undeveloped. Likewise, self-beliefs of efficacy have a powerful effect on motivation:

A high sense of efficacy leads people to mobilize a level of effort in which they undertake and persist in the face of obstacles and difficulties (Evans, 1989, p.54).

In other words, when people encounter obstacles and problems, their thought processes can be self-aiding or self-hindering (Bandura 1988, 1986, 1982; Betz & Hackett, 1986; Locke, 1986; Locke, Frederick, Lee, & Bobko, 1984; Schunk, 1984; Bandura & Schunk, 1981).

Four principal sources of information are available to judge self-efficacy: past personal attainments, vicarious experiences, social persuasion (the active verbal and social efforts of a person or group to influence another person's sense of efficacy), and emotional arousal—cognitive
information supplied from the physiological state to help discern strength and vulnerability (Bandura, 1986, 77; Maddux & Stanley, 1986). Self-efficacy is usually measured in the following dimensions: generality—whether a person believes they are efficacious in few or many domains; magnitude—or level of task performance within a given domain; and, strength (how much faith a person has in their competence or declared magnitude of performance). Scales are usually constructed to categorize the task in nominal variables and then measure the magnitude (level) of expected accomplishment and associated strength (Berry, West, & Denneheh, 1989; Bandura, 1989, 1986; Maddux & Stanley, 1986; Diclemente, 1986; Locke, Frederick, Lee & Bobko, 1984; Bandura, Adams, Hardy, & Howells, 1980; Bandura & Adams, 1977).

Finally, management-efficacy is conjectured to be a factor in worker implementation. Management-efficacy is more appropriately defined as the worker's perception of management's efficacy and is closely related to variable three. Variable three (the use of motivational-regulatory influences) is the conscious approach (process) used by management to influence the perception of the worker in order to motivate, regulate, and maintain personal behavior; however, management-efficacy is the worker's individual and personal perception of the those management actions.

In other words, "Does the worker perceive the organization and management as capable of producing the
Management-efficacy can be determined by measuring employee perceptions and/or the subsequent implementation behavior of the worker relative to their personal judgments of managements or the agency's capabilities (Bandura, 1986).

In summary, Bandura's theory expands the work of other implementation theorists and appears to offer a complete existing theory to explore risk-assessment implementation. However, Bandura's emphasis is to frame implementation, primarily as a cognitive activity.

The Risk-assessment Implementation Literature

The use of social cognitive theory as a theory of implementation in the area of risk-assessment is given added credibility by a comparison of the elements of the six major constructs of the theory with the corresponding work of two current risk-assessment research groups. A qualitative study by Hornby and Wells (1989), hypothesized that effective implementation of a risk-assessment system is based on four factors: the risk-assessment criteria (design and acceptability of the model), management support, environmental factors, and the effects produced by the model. The elements of their four factors closely parallel Bandura's theorizing. For example, the elements in their first factor, assessment criteria and purposes (i.e., the sense the tool makes to workers, decisions the system is designed to
support, effectiveness of the system in assessing risk, and ease of use), closely resemble those within the construct of Bandura's first variable - attentional-informative influences. Likewise, the elements in their second factor - management support for the system (i.e., training provided, time and money spent on development, opportunity for field input, the manager's attitude toward need, and clarification of policy), and the elements included in their third factor (environmental influences) closely parallel the constructs of Bandura's second and third variables - retentional and motivational influences. Finally, elements of their fourth factor - effects produced (i.e., expectations of workers, changes in practice, and changes in laws, regulations, and policy) are very similar to many of Bandura's ideas on management-efficacy.

A second article by Doueck and Associates (1992) approaches the measurement of implementation using both quantitative and qualitative measures in process and outcome methodology. Their evaluation design is structured as field research that uses pre-test and post-test quantitative comparisons of worker perceptions and behaviors and case record data that is common to the pre-innovation and post-innovation of the CPS risk-assessment model. The Doueck et al., perspective on items to review in implementation research again show correspondence with Bandura's variables of attentional-informative influences (design of the model
issues) and training (retentional), and motivational-regulatory/environmental, and efficacy influences.

**The Concept of Outcome and its Relationship to Implementation Theory**

**Overview.** One variable distinctly cited for study by the risk-assessment implementation literature that is not directly identified in Bandura's theory is that of case outcome (Doueck et al., 1992; McDonald et al., 1989; Wilson, 1989). Instead, Bandura has conceptualized outcome as the implementation of a new innovation or the change in a person's (in this case the CPS worker's) perceptions, abilities and/or behaviors.

Of course, other implementation researchers and some evaluation theorists also believe that client outcome should be considered in conjunction with implementation, and offer two general reasons to support their viewpoint (Williams, 1976; Fullan & Pomfret 1977; Patton, 1978; Thomas, 84; Basch et al., 1985; Cordray, 1989; Costner, 1989; Finney & Moos, 1989; Scott & Sechrest, 1989):

1. The worthiness of human service programs is difficult to evaluate without the contemplation of the causal condition for the social problem, and how the melioration should take place.
2. It is also valuable to know if a program that does not seem to be generally effective may produce a
valuable outcome for even one group of clients or if it can be made effective with a different length of intervention.

However, the current literature on the topic of outcome and its relationship to implementation is obfuscating measurement of the variable in the area of risk-assessment and calls for further discussion and definition (Pecora, 1991; Wilson, 1989; Patton 1978). While it is true that outcome has usually been conceptualized as client outcome in the human services (Eldridge, 1990; Carter, 1987; Magura & Moses, 1986), it is the position of this research that outcome should be reframed in its relationship to implementation theory. The writings of Bandura (1986), Patton (1978) Fullan & Pomfret (1977), Hall & Loucks (1977) and others (Hudson, 1987; Scheirer, 1987, 1981; McLaughlin, 1976; Williams, 1976) place their emphasis on the impact of the implementation process on the deliverer of the new innovation more than the effect of such implementation on the client.

In social services evaluation literature, client outcome has generally been reduced to the separate areas of case status, client status, and client satisfaction (Magura & Moses, 1986). Case status (current location of the client and client performance) is an important service and performance indicator in relationship to the agency’s accountability for the client. However, case status is more
a measurement of agency service effectiveness than changes in the client, and current measures for this variable are usually insensitive to client improvement (Hudson, 1987; Magura & Moses, 1986).

Client status is generally defined as the current problems or unmet need(s) of the client. This variable is subject to adequate descriptors of need in relation to norms, standards or statutes of need or service, and adequate measurement techniques to measure these norms. Client status in relationship to need is often (wrongfully) turned into a process measurement of how many units of service were delivered to the client instead of the actual client outcome; unfortunately, this practice helps obscure client goal attainment and outcomes usually remains ambiguously defined and/or ambiguously measured (Eldridge, 1990; Carter, 1987; Rapp and Poertner, 1987; Reid, 1987; Magura & Moses, 1986).

The third common area of client outcome measurement is satisfaction. The satisfaction perspective of outcome has triggered great controversy and has been measured haphazardly, but remains a worthwhile goal for the measurement of program improvement and implementation (Patti, 87; Magura & Moses, 1986). A portion of the controversy surrounding the subject of client satisfaction has centered on that fact that many social services clients are not voluntarily enrolled in their planned services. In fact, many may be unhappy with the proscribed intervention in their
lives and consequently this makes the definition and measurement of "client satisfaction" a most difficult task. A second impediment to measuring client satisfaction in the human services is due, in part, to the wide range of clients and the diversity of program models that make up the field (Patti, 87; Magura & Moses, 1986).

The Measurement of Client Outcome. According to Hudson (1987), there are only four ways to measure a client's problem or need ("and it does not matter how we define client or problem," p.64):

1. Binary status (the condition is present or absent)
2. Frequency of the problem
3. Duration of the problem
4. Magnitude or intensity of the problem

Hudson (1987) and Reid (1987) also suggest that there are only two accurate ways to collect data on a client's problem: researcher observation (personal and/or artifact) and client self-report through the use of interviews, questionnaires, tests, documents.

Suggested areas for outcome measurement include the acquisition of knowledge, affective changes (including morale), behavior changes, status or role changes, and environmental changes (Rapp & Poertner, 1987; Hudson, 1987; Reid, 1987). And, suggested measurement tools include the use of goal attainment scales (baseline and post), measurements of satisfaction or morale, binary checklists for the existence of agency standards and procedures, pre- and post-tests of learning, and the use of case and program notes.
An alternative measurement system was suggested by Patti (1987) in what appeared to be a direct effort to combat administrative and employee anxiety about the measurement of satisfaction with resistant and involuntary clients. Patti suggested a "taxonomy of effectiveness" that classified social service organizations into five types and offered five corresponding measurements of client satisfaction—expressed as client compliance behaviors rather than the use of self-report techniques. This alternative has not yet, been operationalized in the literature.

**A suggested use of client related outcomes as a variable in CPS risk-assessment**

Using risk-assessment in child protective services as a specific example, client outcome could be measured at all three levels: client satisfaction, case need and case status. Minimally, client satisfaction could be patterned after Patti's (1987) taxonomy and measured at the social control level (as expressed by client compliance or lack of compliance and acceptance or resistance to supervision and/or court orders). The area of client status (unmet need) in relation to treatment and parent training could also be included if the CPS agency administers prevention or tertiary programs. However the third area, case status seems to have the most "practice related" value for risk-assessment; and,
McDonald and Associates (1989) outlined a useful set of case status measures that relate directly to child safety—the single most important issue in CPS risk-assessment:

1. Was the child's case screened out at the intake stage and later opened?
2. Was the case screened out at the investigation stage and later opened?
3. Was the case opened, the child not removed and later removed?
4. Was the child reunited with family and the case later re-reported or the child removed again?

McDonald's level one ideas are in need of modification in a number of states such as Ohio in which, public agencies have the case record sealed (not made available to the public) if the case is screened out at intake. Consequently, for current use the questions could be revised as:

1. Was the case screened out after investigation (McDonald's second stage) and later reopened?
2. Was the case opened and/or referred for supervision and the child not removed and then later removed?
3. Was the child removed, reunified and the case later re-reported?
4. "Was the child then removed again?" (If the answer was yes to question three—Was the child then reunified and later re-reported?)
5. Was the case closed (apparently a success, or for administrative reasons) and later reopened, and/or referred for supervision, and/or was the child later removed again?

McDonald's ideas as modified are useful in the area of Child Protective Services, because client outcome has usually
been referred to as "case outcome" and has been conceptualized and measured in the domains of competency of case decision making, and adequacy of record maintenance (concerning the decision-making process). Both of these measures are actually measures of case status, and both are easily obtainable from client records; however, the more ambiguous areas of case outcome—unmet client need and client satisfaction are not easily measured (Doueck, et al., 1992; Pietrzak et al., 1990; Magura & Moses, 1986; Stein & Rzepnicki, 1984). Therefore, McDonald and Associates' (1989) ideas of client outcome as case status and as modified in this current analysis were chosen as an area of study.

It has also been inferred that good outcomes with the deliverer of the system will be translated into good outcomes with clients in the community (Hudson, 1978; Patton, 1978; McLaughlin, 1976; Williams, 1976). However, the validity of this assertion is totally untested. Client outcome may or may not be influenced by new technology. It seems just as possible to this researcher that anticipated or perceived client outcome as a result of the innovation may influence the degree to which a worker incorporates a new technology (i.e., Bandura's concept of anticipated consequence or forethought). Therefore, anticipated client outcome can be more appropriately visualized as an independent variable impacting the level of implementation of the new risk-assessment model.
An Argument for a "Worker-Related" Conceptualization of Outcome in Implementation Theory

The second (and perhaps most important) area of outcome research in relationship to implementation theory is a focus on the deliverer or user of the system as the point of outcome measurement (Sheirer, 1987, 1981; Bandura, 1986; Patton, 1978; Hall & Loucks, 1987). From this perspective, the "social services worker" is the actual "user" or "client" of the new innovation. For sake of a social service analogy, "worker" outcome measures could parallel all three areas of client outcome measures as usually conceptualized: Case status (Is the innovation being used by the worker?); Client status (What attitude and/or staff behavior change has occurred and what are the present needs?); and, Client satisfaction (How satisfied is the worker with the innovation to be implemented? and, how satisfied is the worker with the approaches used to implement the innovation?). As a specific proposition, measurement of outcome in relation to social services staff could then be conceptualized to use the same three outcome measures applied to clients of the social services. For example:

1. Case status—has the "client/worker" chosen to stay in the agency using the new risk-assessment model and is the client/worker using the model?

2. Client status—What are the unmet needs of the "client/worker" in relation to the standards required by the new risk-assessment model?
3. Client satisfaction - What is the expressed satisfaction or morale level of the "client/worker" since the introduction of the new-risk-assessment model?

These three areas of worker outcome could then be re-titled to reduce confusion:

<table>
<thead>
<tr>
<th>Client Title</th>
<th>Worker's Counterpart Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Status</td>
<td>Performance Status</td>
</tr>
<tr>
<td>Client Status</td>
<td>Status of Need</td>
</tr>
<tr>
<td>Client Satisfaction</td>
<td>Worker Satisfaction &amp; Morale</td>
</tr>
</tbody>
</table>

Measurement of "worker outcome" could also use the same technology prescribed to measure client outcome (Rapp & Poertner, 1987; Hudson, 1987; Reid, 1987):

1. Performance status--The use of binary checklists to determine compliance with established standards and procedures (this would be useful and easily accomplished in the measurement of record adequacy and, as such, could answer the question, "are the new risk-assessment documents being completed as required?).

2. Status of Need--The use of self-report binary checklists or goal attainment scales to measure the achievement of goals, attitude changes, behavior changes, status (role) changes, and/or environmental changes. And the use of knowledge acquisition tests to identify knowledge deficits and training needs.
3. Worker Satisfaction—The use of self-report measurements of satisfaction and/or morale.

This movement to a conceptualization of the worker as the center of outcome research is not extended to undermine the importance of measuring client outcome, which is usually seen as a key objective of the social services. The measurement of outcome is also often cited as a related component of implementation theory; but, it is the premise of this argument that "outcome" has not been effectively conceptualized when it comes to the area of implementation and this premise has the support of others (Doueck et al., 1992; Pecora, 1991; Wald & Woolverton, 1990; Wilson, 1989; Hudson, 1987; Fullan & Pomfret, 1977).

Outcome is also integral to social cognitive theory, but has as its focus change in the personal perceptions and personal actions of the "user/implementor" (Bandura, 1986); this position supports the second premise of the current discussion that the most important focus of outcome research in relation to implementation theory is scrutiny of the new user of the innovation. Consequently, when the question of implementation outcome is reframed to center on the "deliverer" of the service, and when the deliverer is appropriately conceptualized as the consumer of the innovation and the central point of measurement, the indistinct nature of early implementation definitions is to some degree remedied (Bandura, 1986; Patton, 1978; Fullan &

Therefore, it appears beneficial to future CPS research to include the variable of outcome in at least two ways. First and foremost, research can focus on "worker outcome" as operationalized within the definition of "implementation" with an emphasis on the user and deliverer of the new innovation--the CPS worker (Bandura, 1986; Patton, 1978; Hall & Loucks, 1977; Williams, 1976). Secondly, future research can explore McDonald's definition (McDonald, et al., 1989) of client outcome as client status, and as further modified by this study.

**A Suggested Construction of Implementation in Risk-Assessment**

Implementation, as noted in the introduction to this study, has typically been defined from two perspectives: 1) a process that includes the organizational and administrative factors that explain implementation success or failure (Palumbo & Oliverio, 1989; Bronson, 1985; Patton, 1978); and 2) and fidelity (level) of the implementation (Patton, 1978; Fullan & Pomfret, 1977; Gross, Giacquinta & Berstein, 1971).

The process perspective has led researchers to focus primarily on the activities and resources of the agency's administration to implement the new technology, and the latter perspective places its emphasis on "outcomes" of the implementation process. As serviceable as these two definitions have been as introductory concepts the world of
implementation research has continued to struggle to achieve an instrumental conceptualization and measurement schema of implementation. And, this lack of a significant definition continues to be one of the most troubling aspects in the risk-assessment implementation literature (Downing, Wells, & Fluke, 1990; McDonald et al., 1989; Daro, 1988).

Consequently, William's (1976) question remains current: "What is implementation?" Furthermore, how is Williams question applicable to risk-assessment in CPS? Is implementation in risk-assessment the activities and resources expended to implement? And, is the appropriate measurement tool a checklist of observable activities? Is implementation reflected by case outcome and measured by performance status?" Or is implementation a "level of use" of the risk-assessment matrix that produces a completed artifact (the risk-assessment instrument or document) and measured by effectuation (level of required completeness)?

It is one endeavor of this current analysis to augment the current risk-assessment definition of implementation. Of course, it may be possible to conceptualize implementation from any one of the previously mentioned historical perspectives; however, additional insight may be achieved by a continuation of the discussion of these three specific issues:

1. Is a record of implementation activities and resources expended a measurement of implementation? This
type of "output" recording, even if it is an accurate record of an agency's activities in an effort to implement and even if the "outputs" are myriad, offers only a partial indication of implementation, at best. Just as importantly, the previous discussion of "black box theory" (Patton, 1987; Weiss, 1972) established that "output" should not be interpreted as implementation.

2. Outcome as an indicator of implementation has also been considered at length with the conclusion that it has yet to be established as an indicator of implementation. In fact, Wildavsky and Majone illustrated in 1984 that good case outcome may actually be the product of a bad implementation of a bad innovation, and that poor case outcome could be a product of a good implementation of a bad model. They offer a summary of their policy implementation model in matrix form (see Figure 1).

3. The answer to the third question (i.e., "Is implementation a level of use of the risk-assessment matrix that produces a completed artifact--the risk-assessment instrument or document?") is also uncertain. Again, while it may be plausible to assume that not completing the required documents would be an indicator of non-implementation, simply producing a completed risk-assessment document is not necessarily an indicator that the new case-decision/judgment process required by the risk-assessment model design was actually used to complete the risk-assessment document.
(Majone & Wildavsky, 1984, p. 177)

**Type of Decision**

<table>
<thead>
<tr>
<th>Type of Execution</th>
<th>Good</th>
<th>Bad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>No Problem (Too good to be true)</td>
<td>Policy Problem</td>
</tr>
<tr>
<td>Bad</td>
<td>Control Problem</td>
<td>No problem (or: how two bads=1 good)</td>
</tr>
</tbody>
</table>

**Figure 1. Implementation in a Pre-Programmed World**
Consequently, this study seeks to add to the definition and measurement of implementation by exploring Bandura's premise (1986) that implementing new innovations, skills and technology is primarily a cognitive activity influenced by cognitive perceptions. Simply stated, a social cognitive theory of implementation sees "implementation" as the final product of the cognitive activity of the user of the innovation. The act of implementation, then, is predominantly a personal choice influenced by perceptions of the process (management-efficacy, attentional-informative influences, retentional mastery-modeling influences, motivational-regulatory influences, self-efficacy influences, and self-motivational influences) operating in the work environment. This conceptualization also corresponds quite nicely with the initial definitions of implementation (fidelity and process) as outlined in the introduction of this study (Palumbo & Oliverio, 1989; Bronson, 1985; Patton, 1978).

These initial definitions/goals, when re-examined, put the emphasis on "implementation" as being the act on an individual implementor, and unlike the worlds of the physical sciences and industry which often produce an easily identified artifact—the risk-assessment activity of CPS workers is predominately cognitive and the product is a judgment. In fact the real work of CPS workers is making judgments (Friesen, 1990; Margolin, 1990; Wilson, 89; Tzeng
Even use and completion of the risk-assessment tool is primarily a cognitive activity producing a cognitive product and a paper artifact recording that judgment (in this case, the Ohio Family Risk-assessment Matrix). Furthermore, the demand to learn a new "judgment process" is seen by Bandura to invoke a cognitive screening process through which the worker filters subsequent actions (i.e., case judgments and writing the risk-assessment score and completing the document). In other words, the worker's observation and subsequent judgment of the client is filtered through the worker's perception of the utility and value of the risk-assessment system before the final judgment of risk is produced and the documentation is completed.

In addition, the social cognitive perspective would conclude that if the CPS worker's perceptions of the new risk-assessment model have been influenced in a positive direction the worker will probably use the new system in future judgmental activity; and will have, consequently and consciously, implemented the model. Conversely, if the worker's perception of the new model has been influenced in a negative direction the worker will probably reject use of the model and not implement or use the model as intended.

Of course, it is also fair to say that implementation of a risk-assessment model is also to some degree a physical act
producing a paper artifact (the matrix). However, the production of the document cannot be construed as an accurate reflection of implementation of the model. Therefore, at least in the area of Child Protective Services, implementation should be more appropriately framed as a two-fold act: (1) as the individual sagacity of the worker (i.e., the worker knows that the risk-assessment model is being used to arrive at or aid in the case decision making process); and, (2) the completion of necessary documentation. The measurement of implementation, then could be measured by: 1) a review of the required artifact for accuracy and completeness, 2) the self-report of use and present perception of the model as an aid in the judgment process, and 3) the worker's self-report on the environmental influences affecting use of the new model.

The reframing of "implementation" from this social cognitive perspective reinforces the notion that the new "user/deliverer" of the innovation should be seen as the center of implementation attention and research. The position seems to be in agreement with Williams' position (1976) that implementation research should be measured as changes in the clients or staff members participating in the project. The social cognitive perspective is given further credibility by Patton's (1978) call for implementation evaluation to focus on the "deliverer" of the innovation being implemented rather than the "delivery system." In
addition, Patton added that the "delivery focus" could be measured by changes in participant attitude, and/or skill, and/or behavior.

The cognitive viewpoint of implementation is given additional reinforcement by the risk-assessment study of Hornby and Wells (1989), that conjectured the effective implementation of a risk-assessment system should produce an overall effect on a worker's consistency of decision making, time, efficiency, and expectations. Cognitive concepts were also included in (quadrant IV) indicators of implementation in the 1992 Doueck and Associates study (i.e., perceived effects on relationships, decision making, overall abilities, competence, perceptions of the risk-assessment model's strengths and weaknesses, and level of worker satisfaction) along with behavioral changes in level of effort. Finally, the idea of cognitive implementation was also offered in Hall & Loucks (1977) "seven levels of use of an innovation" where each level of use results in a cognitive exploration of a personal skill level and the formation of a decision to continue to implement or reject the new innovation.

Bandura's work (1986) is, of course, instrumental in this area by conceptualizing "outcome or implementation" as a change in a worker's perceptions, abilities and/or behaviors. Bandura asserts that amount of implementation, the rate of implementation, the amount of new learning retained, and the amount of effort put forth to effect change
are influenced by the six variables set forth for exploration in this study (attentional-informative influences, mastery-modeling and retentional influences, motivational and regulatory influences, self-motivational influences, perceived self-efficacy, and perceived management-efficacy).

According to Bandura (1986) use (i.e., implementation) of new learning will occur if the new implementor/learner believes that the new innovation will be of benefit to them, matches their value system, does what it is allegedly designed to do, can be related to old learning, appears to be an improvement over the old way, meets or exceeds original expectations, invokes a positive emotional response during its initial presentation, and if it becomes possible for the user to achieve a level of skill and comfort in using the new model. Consequently, these items are suggested as areas of measurement for a new definition of implementation. These perceptions produce both an affective and utilitarian component influencing implementation of the model (i.e., the worker thinks the model works and improves ability to do the job, the worker likes to use the model and consequently incorporates use of the model in future casework judgments). Logically the use of (or decision to not use) the new skill would lead to new self-perceptions of efficacy and the functionalism of the factors influencing the implementation. Consequently, the product of risk-assessment in CPS should be viewed as predominantly cognitive (a
judgment) influenced by perception of factors in the work environment with the production of a secondary artifact of that judgment—case documentation. Measurement then should also be explored in at least the same two areas, an affirmation that the required documentation exists and has been completed as required; and secondly, a self perception and self-report of use of the model (i.e., expressed use).

Consequently, this study uses the resultant construct of "Expressed Implementation" as a dependent variable, and seeks to explore how this additional perspective of implementation is influenced by a CPS worker's perceptions of the other six social cognitive theory variables as used in the implementation process.

The Focus of this Study as Framed by the Current Theoretical and Empirical Literature

The foundational implementation literature (Patton, 1978; Fullan & Pomfret, 1977; Hall & Loucks, 1977; Williams, 1976), the risk-assessment perspectives on implementation (Doueck et al., 1992; Hornby & Wells, 1989), and the case outcome literature (McDonald et al., 1989; Carter, 1987; Hudson, 1987; Patti, 1987; Rapp & Poertner, 1987; Reid, 1987; Magura & Moses, 1986) are presently incomplete; but are complemented and expanded by Bandura's social cognitive theory and his movement into the areas of personal and management-efficacy and implementation methodology (Wood et
al., 1990; Bandura & Wood, 1989; Evans, 1989; Bandura, 1986). However, both the foundational implementation literature and social cognitive theory are untested in relationship to the measurement of implementation of risk-assessment models in Child Protective Services. Consequently, this study seeks to explore the utility of social cognitive theory as a framework for a general theory of implementation that could explain factors influencing the implementation of a new risk-assessment model presented to staff members in a Child Protective Services agency. The study also seeks to explore the relationship of client outcome as measured by case status to risk-assessment implementation. The research design for this focus is provided in the next chapter on methodology.
CHAPTER III
CONCEPTUAL FRAMEWORK AND METHODOLOGY

Overview

This study was designed to be exploratory and descriptive in nature and uses quantitative social work data collection techniques as suggested by Rubin & Babbie (1989), and data analysis techniques as suggested by Popham and Sirotnik (1992), Hair, Anderson, Tatham and Black (1992), and Cohen and Cohen (1983). The data is reported using procedures suggested by Warmbrod (1993, 1993b). The descriptive component is an effort to understand and conceptualize how Child Protective Service workers choose to incorporate or not incorporate new risk-assessment technology offered to them for implementation. Similarly, an attempt was made to synthesize the literature of implementation theory, social cognitive theory and outcome theory and apply it to the social services and Child Protective Services specifically. This effort was accomplished by a review of the literature, correspondence and telephone interviews with local (Ohio) and national experts in the fields of Child Protective Services and CPS risk-assessment implementation evaluation (Please see Appendix C). The descriptive part of the study aims to extend the working definition of
implementation for CPS practice. The exploratory aspect of the study is concerned with the larger issue of determining how the decision and act of implementation is carried out by an individual practitioner. Furthermore, the study is concerned with the developing an easily understood evaluation model that will benefit social work and CPS practitioners in their efforts to implement new technology. The successful application of the proposed model in the study will support the argument that it is possible to: (1) describe the implementation actions of CPS practitioners, (2) use the model to guide future implementation of new programs and technologies, and (3) guide the evaluation of that implementation.

Survey methodology (Rubin & Babbie, 1989) was used to identify and examine the implementation procedures used by ten Child Protective Services units in the state of Ohio to pilot a new risk-assessment model with their staff members. The study sought to discover if the premises of Bandura’s social cognitive theory (1986) were of value in interpreting “worker implementation” of the new risk-assessment system. The key implementation processes identified by individual CPS workers were compared with the constructs of Bandura’s (1986) social cognitive theory to examine the usefulness of the theory to guide the implementation of risk-assessment models designed for the field of child protective services.
The study also considered "case outcome" (the status of individual CPS client cases as identified in official case records) as an additional independent variable and sought to discover the relationship between this variable and the dependent variable. Issues considered in the study were based on questions developed by current implementation theorists and researchers (DePanfilis, 1994, 1991; English & Pecora, 1994; Sheets, Kern & Baumann, 1993; Fluke, England, & Walsh, 1993; Doueck et al., 1992; Pecora, 1991; Pietrzak, 1990; McDonald et al., 1989; Bandura, 1986; Basch et al., 1985; Bronson, 1985; Majone & Wildavsky, 1984; Thomas, 1984; Kaufman & Thomas, 1980; Rothman, 1980; Patton, 1978; Fullan & Pomfret, 1977; Hall & Loucks, 1977; Williams, 1976).

**Sampling Design**

**Study Population.** The research studied Child Protective Service Workers in regional units of the State of Ohio. Some CPS workers were employees of district/county offices of the Ohio Department of Human Services and some CPS workers were employed by county level governmental units under the supervision of local Children Services Boards. The State of Ohio does not have a single unified governmental system responsible for the administration of Child Protective Services offices. Therefore, for ease of discussion all CPS units are referred to as county units--representing the geographical characteristic of their identities.
The study population included all CPS staff members (N=895) from ten county Child Protective Services units piloting the use of a new risk-assessment model, the Ohio Family Risk-Assessment Matrix. All ten CPS units volunteered to pilot the new risk-assessment matrix under the guidance of the Ohio Department of Human Services.

**Agency Sampling List.** The agency sampling list was determined and provided by the Ohio Department of Human Services (ODHS) and included ten counties of varying sizes and geographic locations. The ten pilot counties were chosen by the Ohio Department of Human Services (ODHS) to provide a diverse and stratified (representative) sample of the State of Ohio's CPS units. The selected sample was representative of: agency type (i.e. whether the unit was a district office of ODHS or a county governmental unit under the supervision of the local Children Services Board); funding base—whether funding was provided by ODHS only or by both ODHS and a local county government; geographic region—the state was divided into four regions (Northwest, Southwest, Northeast, and Southeast) for the purposes of this study; and county size—defined as metropolitan (metro) or small. The original research design included: one metropolitan county and one smaller, more rural, county from each of the four regional geographic formulations. Two additional small counties were added to the sample to increase small county representation. Distinct definitions were not formulated by ODHS for the
difference between a metropolitan area and the smaller counties; consequently, the sample was redefined in the current analysis on the basis of the number of risk-assessment cases processed and substantiated using the new risk-assessment matrix. This new definition was jointly agreed to by ODHS and the researcher as more representative of the sample needed for the purposes of the present study. The sample was eventually defined as including five pilot county CPS units with programs totally funded by the Ohio Department of Human Services and five jointly funded by Children Services Boards and ODHS funds (PCSAO, 1995). Metropolitan counties were thus defined as counties having a child population of more than 90,000 and more than 900 cases of substantiated abuse and/or neglect during the period of the pilot study. The new definition slightly re-arranged the geographical representation of the four large and six small counties as described in Table 1.

### TABLE 1: COUNTY SAMPLE

<table>
<thead>
<tr>
<th>NUMBER &amp; REGION</th>
<th>UNIT SIZE</th>
<th>STUDY DESIGNATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - Northwestern</td>
<td>1 metro, 1 small</td>
<td>[I, C]</td>
</tr>
<tr>
<td>3 - Southwestern</td>
<td>3 small</td>
<td>[D, B, E]</td>
</tr>
<tr>
<td>2 - Southeastern</td>
<td>1 metro, 1 small</td>
<td>[H, A]</td>
</tr>
<tr>
<td>3 - Northeastern</td>
<td>2 metro, 1 small</td>
<td>[G, E, J]</td>
</tr>
</tbody>
</table>
Subject Sample and Units of Analysis. The subjects of the study and the "Units of Analysis" were individual CPS caseworkers who were employed by one of the 10 county units on the pilot agency sampling list. The study subjects were selected in two ways. The sample was deemed a purposive sample by the fact that all respondents voluntarily agreed to participate in the study. However, the sample sought to be representative of the identified population by asking every worker in all but the two largest counties to volunteer to complete the survey. The administration of the two largest counties felt that asking all of their employees to volunteer to complete the survey would be too disruptive to their operations; therefore, there was agreement by all parties (ODHS, the CPS units and the researcher) to choose a representative sample of the county workers and ask them to volunteer. The reason that the survey was conjectured to have the possibility of being disruptive was that the survey was personally administered at "survey sites" and took an average of 45-60 minutes to complete. (Refer to "General Data Collection Procedures" for a further explanation.)

Forty-two percent (42%) of the 895 protective service workers employed in the ten CPS units were requested to participate in the study (see Table 2). In the smaller counties the entire population of eighty-nine workers was requested to participate and 81% did. In the metropolitan counties various selection methods were employed to reduce
disruption to the agencies. The largest county in the study (G) chose to invite one-fifth of its work force of 550 workers using a random sampling method. The workers were invited to participate in one of eight different survey times with a (92%) participation rate (101). The second largest metropolitan county (H) chose to survey all seventy workers comprising one of its two CPS units involved in piloting the Risk-assessment Matrix. The third metro county (I) invited all sixty of its workers to participate. And the fourth metro county (J) invited all of its CPS workers (forty-four) to participate that had not participated in the pilot test of the survey instrument. In total, 373 CPS workers of the total population of CPS workers in the pilot counties (P=895) were invited to participate in the survey and 85% responded (n=316). The number of subjects chosen followed the guidelines for representative samples established by Kraemer and Thiemann (1987) and Krejcie and Morgan (1970) requiring a sample size of 269 participants from an estimated population of 900. Although all of the subjects were public Civil Service employees, this study does not assume that the agency staff were equal in characteristics or qualifications. Furthermore, despite efforts made to ensure an adequate and representative sample size, the study focuses on a unique population. The results of the study should therefore not be assumed to be generalizable to any other Child Protective Services population.
<table>
<thead>
<tr>
<th>COUNTIES OR DISTRICT OFFICES OF ODHS</th>
<th>NUMBER OF WORKERS IN UNIT</th>
<th># REQUESTED TO PARTICIPATE</th>
<th>FINAL NUMBER OF PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL COUNTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>14</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>B</td>
<td>6</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>C</td>
<td>9</td>
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<td>D</td>
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<td>E</td>
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</tr>
<tr>
<td>F</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>89</td>
<td>89</td>
<td>72 (81% of # requested)</td>
</tr>
<tr>
<td>METRO COUNTIES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>550</td>
<td>110</td>
<td>101</td>
</tr>
<tr>
<td>H</td>
<td>140</td>
<td>70</td>
<td>56</td>
</tr>
<tr>
<td>I</td>
<td>60</td>
<td>60</td>
<td>45</td>
</tr>
<tr>
<td>J</td>
<td>56</td>
<td>44</td>
<td>42</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>806</td>
<td>284</td>
<td>244 (86% of # requested)</td>
</tr>
<tr>
<td>GRAND TOTALS:</td>
<td>895</td>
<td>373</td>
<td>316 (85% of # requested)</td>
</tr>
</tbody>
</table>
Design of the Survey Instruments

Survey items were constructed according to procedures outlined in Norland (1994) and Spector (1992). The individual questions were extracted from concepts or assertions in the Social Cognitive literature of Bandura and Associates (Bandura, 1989, 1986, 1986b, 1982, 1977, 1971, 1965; Evans, 1989; Bandura & Adams, 1977; Bandura, Adams, Hardy & Howells, 1980; Bandura & Cervone, 1986; Bandura & Cervone, 1983; Bandura, Grusec & Menlove, 1966; Bandura & Jeffery, 1973; Bandura, Jeffery & Bachicha, 1974; Bandura & Schunk, 1981; Bandura & Simon, 1977; Bandura & Wood, 1989; Wood, Bandura, & Bailey, 1990). The items were constructed into a draft list of social cognitive theory indicators and then compared with the constructs of other risk-assessment implementation researchers to establish face validity of the theory as a theory for risk-assessment implementation (English & Pecora, 1994; Sheets, Kern & Baumann, 1994; Fluke, England & Walsh, 1993; Doueck et al., 1992; DePanfilis, 1991; Hornby & Wells, 1989). The preliminary questionnaire was circulated to an expert panel for their comments and suggested wording changes in order to confirm face and construct validity. The first revision was given preliminary approval of the Ohio Department of Human Services and field tested with 22 CPS workers from one of the pilot county units. Slight modifications in wording and question order were made after the field testing. The second revision of
the survey was submitted to the Ohio Department of Human Services and the Human Subjects Review Committee of the Ohio State University for final approval.

The survey was completed by 316 respondents and the variable scales were then tested for internal consistency and reliability (Spector, 1992) and reliability coefficients were established. The summated scores on the scales indicates each variable as it was defined in chapter two of this study. Scores are reported as percentages of possible scores per scale. When necessary, coding of the questions was reversed so that a high score on each scale uniformly indicates positive direction (e.g., use and acceptance of the risk-assessment matrix) and a low score indicates the reverse.

A second study instrument the Case Record Checklist was developed by the researcher and is composed of questions formulated from the risk-assessment literature, personal correspondence with national experts (refer to Appendix C), and the modified version of questions formulated by McDonald et al. (1989). The checklist construction followed a format similar to that recommended by Pietrazak et al. (1990) and Hudson (1987). The checklist is composed of three sub-indices: the first index includes 17 items and measures effectuation of the matrix (level of required completeness). The second index of six item records the extent to which the required supervisory review and the risk-assessment score (assigned by the CPS worker) conforms to the judgment and
demographic data included in the body of the matrix. The third section (a five item index) measures case outcome using a modified version of the case status questions devised by McDonald et al. (1989), (as described in chapter two of this study). All indices were binary—the element was either observed to exist in the case record (indicating a "yes" score) or it was not observed (indicating a "no" score). The preliminary checklist was also circulated to the expert panel for comments, suggested wording changes, and to confirm face and construct validity. The first revision was then given preliminary approval by the Ohio Department of Human Services and field tested on 25 case records by the researcher. Slight modifications were made and the revised version was submitted to the Ohio Department of Human Services and the Human Subjects Review Committee of the Ohio State University for final approval. The case record checklist was subsequently used to analyze 285 case records to determine case outcome, and is further discussed in the next section.

**Variables Included in the Study**

The dependent Variable in the study is "Expressed Implementation" (EXPRSIMP) which means the expressed (or self-reported) degree to which the new CPS risk-assessment model—"The Ohio Family Risk Assessment Matrix" was incorporated by each CPS worker in daily risk-assessment routines. The concepts explored in this research are the
cognitive concepts of the use of self-perceived information (Bandura, 1988, 1986; Bandura & Cervone, 1983). "Expressed implementation" was determined by a scale of 20 questions measuring a CPS worker's self-perceptions about use, utility, and importance of the risk-assessment instrument in many aspects of their daily casework routines including decision making, service planning, case documentation, and case supervision. The scale explores self-ascribed use, level of implementation and desire for continued use of the matrix. The scale has a reliability coefficient of .8934 (Cronbach's alpha). The terms perception and ascribed use are emphasized because personal expression of use and perception of utility is what is being measured (i.e., the researcher used a self-report survey to measure the dependent and independent variable scores). Personal observations and measurements of worker activities in the use of the risk-assessment model in the work place, were not conducted. The dependent variable questions were placed throughout the survey and not incorporated as one specific section of the survey to reduce the effect of a social desirability bias developing from a sequential placement of the "sensitive" implementation questions.

The study includes eight independent variables. Six independent variables are selected and defined by social cognitive theory: attentional-informative influences, retentional mastery modeling influences, motivational-
regulatory influences (used by agency management), self-motivational influences, perceived self-efficacy, and perceived management-efficacy. The first six variables were measured by sub-scales of the survey instrument. A seventh variable was constructed using Cohen and Cohen's (1983) effects coding technique to include for inclusion in the regression formula— to examine the effect of county membership on "expressed implementation."

The eighth independent variable selected for study was case outcome. The variable consists of a summated score on a case checklist data collection instrument using ideas from McDonald et al. (1989) and Holder (1987) and constructed along the suggested guidelines of Pietrzak et al. (1990). Each variable is discussed separately in Chapter Four.

**General Data collection Procedures**

Patterned after the format described by Epstein (1994), all surveys were disseminated to participants through personal attendance at agency staff meetings. Information about the study was provided to agency directors and staff through advance informational meetings and letters provided by the Public Children Service Association of Ohio and the Ohio Department of Human Services. The Public Children Services Association of Ohio is a professional association representing the workers and administrators of all Ohio Public Children Services agencies on policy and advocacy
issues. The Association endorsed the study and was instrumental in obtaining study approval by the Ohio Department of Human Services and each county CPS unit.

Advance cover letters were then forwarded to the agency to be distributed to each CPS worker requested to volunteer for the study. These letters described in detail the purpose and value of the study and asked for individuals to voluntarily participate in the study. The advance letters were distributed two weeks before the questionnaire was to be completed and stated the time and place for the survey session(s). The surveys were then distributed in face-to-face group survey sessions during which a request was made for participants to complete every item on the questionnaire. The surveys were distributed with a second cover letter and an endorsement letter from the Public Children Services Association of Ohio.

Survey sites were provided by the local CPS unit and each survey session was also attended and supervised by an official of the Ohio Department of Human Services. Multiple survey collection sessions (4-8) were provided to all of the metropolitan counties; only one survey day was provided to each of the smaller counties. Therefore, the final participation rate was affected by workload, court hearings, case crises, and work attendance on the chosen survey days. Overall, the counties were generous and cooperative with their time and facilities, and workers were gracious,
enthusiastic, and conscientious in their completion of a lengthy survey instrument.

The surveys were distributed and administered in personal sessions: 1) to increase the rate of return; and 2) to confirm confidentiality of the individual surveys. The survey contained many sensitive questions about the worker's perceptions of the risk-assessment training process, agency procedures, agency management techniques, the design of the risk-assessment instrument, and personal implementation of the matrix— the dependent variable; and the expert panel had felt that the participants may not answer the questions honestly if they felt that their supervisors would have the opportunity to review their answers.

The Ohio Department of Human Services (ODHS) and the pilot counties also provided access to client case records to examine case outcome rates. The records were chosen using a stratified random sample methodology by county unit using the ODHS computerized client data base system (FACSIS). The number of records chosen was relative to the number of cases that each county CPS unit had actually processed using the pilot risk-assessment model, not just on the child population of the county. This methodology was chosen because the ten county CPS units entered the pilot study at different times, with different numbers of caseworkers, and with different levels of substantiated abuse and neglect cases; hence, the number of risk-assessment instruments completed during the
course of the pilot study varied substantially from county to county. The case checklists were completed by the researcher at each county CPS office during a subsequent visit arranged by the ODHS and the Public Children Services Association of Ohio.

The original sampling design for case records called for 319 cases and was based on the number of substantiated cases of abuse and neglect; however, the random sample procedure failed to produce the number of required cases in metro counties G and H. Consequently, the number of cases used from G and H were reduced and the total sample was reduced to two hundred and eighty-five (n=285). The random sampling procedure had used case file numbers to draw the sample and case file numbers were assigned to each child in a family. However, the sampling methodology had failed to account for the fact that only one risk-assessment matrix was completed per family. Consequently, the random sampling procedure drew the same family matrix more than one time by selecting more than one child from a family. Therefore, rather than count the same family matrix twice as two individual samples the sample was reduced to the number of individual family matrices actually drawn. (Please refer to Table 3 for additional details.) The final number of cases reviewed (n=285) still exceeds the requirements of a representative sample for the population (Kraemer & Thiemann, 1987; Krejcie & Morgan, 1970).
<table>
<thead>
<tr>
<th>COUNTY</th>
<th># SUBSTANTIATED CASES OF A/N</th>
<th>CHILD, POPULATION</th>
<th># OF CASES</th>
<th>% OF TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL</td>
<td>(13% of the sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>214</td>
<td>12,100</td>
<td>9</td>
<td>22%</td>
</tr>
<tr>
<td>B</td>
<td>69</td>
<td>9,600</td>
<td>3</td>
<td>07%</td>
</tr>
<tr>
<td>C</td>
<td>119</td>
<td>11,325</td>
<td>5</td>
<td>12%</td>
</tr>
<tr>
<td>D</td>
<td>165</td>
<td>35,100</td>
<td>7</td>
<td>16%</td>
</tr>
<tr>
<td>E</td>
<td>267</td>
<td>33,000</td>
<td>11</td>
<td>27%</td>
</tr>
<tr>
<td>F</td>
<td>156</td>
<td>13,400</td>
<td>7</td>
<td>16%</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>990</td>
<td></td>
<td>42</td>
<td>100%</td>
</tr>
<tr>
<td>Metro</td>
<td>(87% of the sample)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>2,526</td>
<td>338,200</td>
<td>102,</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td>41%</td>
</tr>
<tr>
<td>H</td>
<td>2,034</td>
<td>236,800</td>
<td>83,</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>51</td>
<td>21%</td>
</tr>
<tr>
<td>I</td>
<td>1,223</td>
<td>122,300</td>
<td>50</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21%</td>
</tr>
<tr>
<td>J</td>
<td>998</td>
<td>92,500</td>
<td>42</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17%</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>6,781</td>
<td></td>
<td>277</td>
<td>100%</td>
</tr>
<tr>
<td>GRAND TOTALS:</td>
<td>7,771</td>
<td></td>
<td>316,</td>
<td>94%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>n=285</td>
<td>100%</td>
</tr>
</tbody>
</table>

Denotes number of cases originally selected in the study design; the second number is the actual number of cases used in the study because of a lack of valid cases being selected by the random sampling procedure. Please refer to page 80 for an explanation.

b 1990 census data.
**Data Analysis**

The data were analyzed using SPSS for Windows as the computer package. Data analysis was dictated by the essential research questions and followed the multiple regression format formulated by Akers, Krohn, Lanza-Kaduce, & Radosevich (1979) to test a specific aspect of social learning theory. Multiple regression is an appropriate model building technique when a research problem is concerned with measuring the effect of several independent variables on one dependent variable. This format was also used to confirm specific aspects of social cognitive theory by Bandura and Cervone (1986) and Schunk (1984). Univariate descriptions of the primary variables were completed using the format described by Warmbrod (1993) and the multiple regression analysis was conducted using the analytical procedures described by Hair et al. (1992), Popham and Sirotnik (1992), Babbie (1990), Kim (1975), and Labovitz (1971, 1970). The multiple regression terminology used in the data analysis is that of SPSS for Windows (1994) and Warmbrod (1993b) respectively.

In the analysis of the data, multiple linear regression and correlations were performed. The data obtained through this analysis had a direct interpretation within the implementation model framework. The hierarchical model of multiple regression analysis was used and guided by the conceptual framework of social cognitive theory (Bandura,
1986; Bandura & Cervone, 1986; Schunk, 1984; Akers et al., 1979; Cohen & Cohen, 1983). Results and the rationale for entry of the variables study are presented in Chapter IV.
CHAPTER IV
RESULTS

The results are divided into five sections. Section one is a brief description of participant characteristics. Section two provides the statistical description of the independent and dependent variables used in the study. Section three outlines the hierarchical regression examination of the social cognitive model of implementation. Section four provides a description of the same approach with the influence of case outcome added to the equation. Finally, section five adds the effect of county membership as an additional influence on the regression equation.

Description of the Participants

The study involved three hundred and sixteen participants (n=316). At the time of the study (February-April, 1995), all of the participants were full-time employees of Child Protective Services units in ten Ohio counties involved in a pilot study of the Ohio Family Risk Assessment Matrix. All participants were volunteers who completed an unsigned confidential questionnaire. Participants consisted of 252 direct service CPS caseworkers, 40 supervisors and 24 staff members who had the dual role of direct service worker and supervisor (80 percent were line
staff). The participants were predominately female (82%) and between the ages of twenty and thirty (58%). The workers had tremendous diversity in length of service (from less than one month to 27 years) with the average time in the profession equaling three years and the mode equaling one year. There was also diversity in the length of time CPS workers had been using the risk-assessment matrix (from less than 1 month to 2 years) but the average participant has used the matrix in their work for 17 months. The participants were well educated with only two workers having less than a college degree (.006%), two-hundred and forty-four (77%) possessed bachelors degrees and seventy (22%) had earned graduate level degrees. Eighty-one percent were white, seventeen percent were of African-American descent and two percent were of other races (Table 4 provides the key descriptive characteristics of the participants).

Analysis of the Existence of Implementation

The independent variables in this study have been identified as the constructs of Bandura's (1986) social cognitive theory (attentional-informative influences, mastery-modeling and retentional influences, motivational and regulatory influences, self-motivational influences, perceived self-efficacy, and perceived management-efficacy), with the addition of two variables of special interest: case outcome, and the effect of county membership.
### TABLE 4: PARTICIPANT CHARACTERISTICS

<table>
<thead>
<tr>
<th>EDUCATION</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSW</td>
<td>26</td>
<td>8.2</td>
</tr>
<tr>
<td>GRAD</td>
<td>44</td>
<td>13.9</td>
</tr>
<tr>
<td>UNDERGRAD</td>
<td>244</td>
<td>77.2</td>
</tr>
<tr>
<td>ASSOC DEGREE</td>
<td>1</td>
<td>.3</td>
</tr>
<tr>
<td>SOME COLLEGE</td>
<td>1</td>
<td>.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>SEX</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEMALE</td>
<td>258</td>
<td>81.6</td>
</tr>
<tr>
<td>MALE</td>
<td>58</td>
<td>18.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AGE</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 OR OLDER</td>
<td>70</td>
<td>22.2</td>
</tr>
<tr>
<td>31-40</td>
<td>62</td>
<td>19.6</td>
</tr>
<tr>
<td>20-30</td>
<td>184</td>
<td>58.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RACE</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTHER</td>
<td>6</td>
<td>1.9</td>
</tr>
<tr>
<td>AF-AM</td>
<td>55</td>
<td>17.4</td>
</tr>
<tr>
<td>WHITE</td>
<td>255</td>
<td>80.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
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</table>

<table>
<thead>
<tr>
<th>POSITION</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPERV &amp; DIRECT</td>
<td>24</td>
<td>7.7</td>
</tr>
<tr>
<td>ADMINISTRATOR</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>SUPERVISOR</td>
<td>36</td>
<td>11.4</td>
</tr>
<tr>
<td>DIRECT SERVICE</td>
<td>252</td>
<td>79.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME IN PROFESSION</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 11 MONTHS</td>
<td>30</td>
<td>9.5</td>
</tr>
<tr>
<td>1YR-23 MONTHS</td>
<td>36</td>
<td>11.4</td>
</tr>
<tr>
<td>2 YRS OR MORE</td>
<td>250</td>
<td>79.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean=3.01 years  Std Dev=3.4 years  Range=43
Mode=1 year     Minimum= 0  Maximum= 43 years
### TABLE 4: PARTICIPANT CHARACTERISTICS (Continued)

<table>
<thead>
<tr>
<th>TIME IN PRESENT POSITION</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 11 MONTHS</td>
<td>60</td>
<td>19.0</td>
</tr>
<tr>
<td>1YR-23 MONTHS</td>
<td>61</td>
<td>19.3</td>
</tr>
<tr>
<td>2 YRS OR MORE</td>
<td>254</td>
<td>61.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean=3.1 Years  Std Dev=3.42  Range=23 Years

<table>
<thead>
<tr>
<th>EXPERIENCE WITH R/A MATRIX</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER USE</td>
<td>5</td>
<td>1.6</td>
</tr>
<tr>
<td>0 - 11 MONTHS</td>
<td>138</td>
<td>43.7</td>
</tr>
<tr>
<td>12 OR MORE</td>
<td>173</td>
<td>54.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean=17.6 (Months)  Std Dev=6.0  Range=24 (Months)  n=311

<table>
<thead>
<tr>
<th>NUMBER OF R/A INSTRUMENTS COMPLETED MONTHLY (EST.)</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5</td>
<td>193</td>
<td>61.0</td>
</tr>
<tr>
<td>6 -10</td>
<td>40</td>
<td>12.8</td>
</tr>
<tr>
<td>11-20</td>
<td>66</td>
<td>20.9</td>
</tr>
<tr>
<td>21 OR MORE</td>
<td>17</td>
<td>6.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean=9.27  Std Dev=11.73  Range=20

Mode=3  Minimum=0  Maximum=20

<table>
<thead>
<tr>
<th>ESTIMATED AVERAGE CPS CASELOAD</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE (INTAKE &amp; SUPERVISION)</td>
<td>57</td>
<td>N/A</td>
</tr>
<tr>
<td>1 -10</td>
<td>121</td>
<td>38.3</td>
</tr>
<tr>
<td>11-15</td>
<td>62</td>
<td>19.6</td>
</tr>
<tr>
<td>16-20</td>
<td>53</td>
<td>16.8</td>
</tr>
<tr>
<td>21 OR MORE</td>
<td>80</td>
<td>25.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>316</td>
<td>100.0</td>
</tr>
</tbody>
</table>

n=259  Mean=17.32  Std Dev=9.37  Range=29

Mode=12  Minimum=1  Maximum=30
The identification of the first seven variables was accomplished through a review of the literature (i.e., the social cognitive variables and case outcome). The examination of the eighth variable the effect of county membership was an expressed interest of the Ohio Department of Human Services that seemed pertinent to the current analysis. The variables are discussed sequentially with the first six being constructs of social cognitive theory. The reliability coefficients listed are Cronbach's alpha or split-half dichotomous alphas.

The first independent variable, perceived self-efficacy (SELFEFF), measures a participant’s perceptions of personal power and capability to accomplish the task facing them. In this case, the task was to learn how to use and implement the new-risk assessment technology. Individual questions assessing perceived self-efficacy were formed into a summative nine item scale (alpha= .9007); and a high score on this variable indicated that the participant perceived themselves capable to implement the new risk-assessment model. Scores ranged from 20 to 100 (range of 80), with a mean of 50.5, a median of 51, a mode of 60, and a standard deviation of 17.95. The data were slightly skewed in a positive direction (.301). Examples of significant questions included in the scale are: "The new risk assessment system offers me more individual control," and "Since we tried to institute the new risk assessment model I feel more capable
about my ability as a protective services worker." The results reflect that slightly more participants were unsure than sure of their ability to implement the technology, but the mean of the group was pulled to the positive side by a smaller number of persons with above average feelings of self efficacy in regards to the task presented.

The second independent variable was attentional-informative influences (AII). This variable measures a CPS worker's perception of the process or form by which the new risk-assessment model was initially presented. That is, how the design process and the introduction of the risk-assessment model to the individual CPS practitioner was carried out. These influences may include such actions as building a positive emotional atmosphere for acceptance of the new learning, choosing a design for the innovation to be implemented that makes sense to the learner, providing adequate information, gaining the person's attention through symbolic presentations, and building an expectation of anticipated positive consequences for implementing the system. The measurement scale for this variable contained 19 items (alpha = .8107). A high score on this variable denotes that the participant felt very positive about their introduction to the risk-assessment system from the person initially explaining the system, to the design of the system and even the materials distributed. The mean score on this scale of the survey was 78.6, with a median of 79, mode of
77, a range of 46 (54-100) and a standard deviation of 10.31. The data were slightly skewed in a negative direction (-.273). However the results indicate an almost normal curve of responses with respondent perceptions of the introduction of the risk-assessment system ranging from negative to positive.

The third independent variable in the study measured the participant’s perception of the agency’s use of retentational mastery-modeling influences (RMMI) to help the CPS worker learn and retain the skills required by use of the new risk-assessment model. The survey included two scales to measure this concept. The first was a dichotomous sub-scale of 22 items inquiring into the use of training equipment and techniques, and the second was a sub-scale of 7 items concerned with general impressions of the adequacy of the training, the amount of experiential modeling experiences offered, pace of implementation and amount of technical support offered.

The first sub-scale did not influence the data because of a lack of variance in the answers. The dichotomous questions of the scale contained a checklist of training techniques and teaching aids envisioned to be of value (by social cognitive theory) in mastering and retaining new skills and technology. However, the survey questions were all answered with "no" answers (with two exceptions) and the variability was zero; this meant that the techniques
suggested to be of value in the literature had not been employed by the agency and/or the risk-assessment trainers. For example, the original survey asked if (1) simulation games and (2) computer technology were used as training aids and all participants answered "no". The only two questions with "yes" answers were: "Were verbal presentations used?" and "Was an overhead projector used?" In these two situations all responses were "yes," once again producing zero variability. The responses to these questions reveal a lack of variety in training techniques and non-use of modeling and experiential exercises.

Questions in the second sub-scale (alpha = .7537) were presented under a general heading of training influences and only these seven questions concerning satisfaction with the training process were included as the final indicator of RMMI. A high score on this scale indicated satisfaction with the training methodology used and a low score constituted a negative perception of the risk-assessment training process as carried out. The scores on the scale ranged from 32 to 100 with a mean of 79.7, a median of 82, a mode 89, and a standard deviation of 13.09. The answers were negatively skewed (-.504) and had a negative kurtosis (-.326) which means its tails show a lighter than normal distribution of scores than would be found in the normal curve. Kurtosis is a measure of the extent to which observations are clustered in the tail of the distribution. A normal distribution has
a kurtosis statistic of 0. If a variable has a negative kurtosis, its tails have a lighter distribution than normal. If a variable has a positive kurtosis, its tails have a larger distribution of cases than normal. Consequently, the results indicate a mixed perception of the adequacy of training with a very strong disfavor shown by about 12 percent of the participants.

The fourth independent variable is the perception of motivational-regulatory influences (MOTREG). This variable included four sub-scales that measure separate influences asserted by Bandura (1986) to be part of the external (i.e., agency or management) motivational-regulatory function. The four sub-scales are reported separately as they measure different things but are combined into the general scale when used for purposes of the regression analysis (entered on the same step as one scale when entered into the multiple regression equation). Items on the scales measure the individual worker's perceptions of the actions taken by the agency's management to influence acceptance of the new technology. The four sub-scales are concerned with management's use of goal setting techniques in relationship to the risk assessment model (an 8 item scale--alpha = .8827); management's use of problem solving techniques in relationship to the risk assessment model (3 items--alpha = .7453); the amount of stress caused by introduction of the system (2 items--Cronbach's alpha = .8188); and the fourth
sub-scale measures the perception of the management's use of incentives to encourage implementation of the new risk-assessment technology. Use of incentives was measured on an eleven item dichotomous scale (alpha = .6777); alpha coefficients below .7000 are suspect, but Nunnally (1967) indicates that scores as low as .5 are acceptable for early stages of research.

Examples of questions contained in this scale are: (1) "Our agency used collective problem solving to institute the new risk assessment system." (2) "Goal setting exercises were used to help institute the new risk assessment system in our agency." (3) "Rewards were promised for achieving competency in the new system." And, (4) "Punishment was implied for not learning the system." Overall, low scores on the variable indicate a negative perception of the motivational and regulatory actions of the agency and high scores indicate a positive view of the agency's actions in this area. The mean was 58.7, median was 57 and there were two modes (57 and 60). Scores ranged from 43 to 80, a range of thirty-seven with a standard deviation of 7.89. The results were positively skewed (.467). The general distribution of scores on this variable disclose a neutral to slightly negative worker perception of the motivational and regulatory actions used by the agencies to influence the implementation of the risk-assessment instrument with a positive scores pulling the mean right of center.
The fifth variable measured in the study is self-motivational influences (SELFMOT). Bandura asserts that these influences are internal cognitive motivators and are usually produced through the personal creation of an outcome expectancy (positive or negative), the use (or non-use) of personal goal-setting activities, responses to peer pressure and perceived vicarious stimuli (social influences in the environment). Vicarious stimulation and motivation are provided through observation of the successful and unsuccessful behavior of others. The self-motivation scale is composed of 11 items. A high score on the scale indicates that the participant felt that the risk assessment model was positively perceived by co-workers and supported by the agency (an indicator of positive social influence in the work environment). A high score would also indicate positive personal feelings about the risk-assessment system, and general satisfaction with work and the social environment at work. High scores also indicate the person perceived themselves as having used personal goal setting to incorporate the new risk-assessment model as one of their behaviors, and had also put forth a sustained effort to learn and use the system. The self-motivation scale had a reliability coefficient of .6466 (alpha); this low coefficient was a function of a mixture of questions in this scale measuring the different influences of self-motivation (Spector, 1992). Participant scores on this section of the
survey ranged from 31 to 100 (range of 69) with a mean score of 69.2, a median of 69.5 and a mode of 69. The scores indicate a full distribution of responses with a few very negative scores pulling the mean of the group slightly to the negative side (skewness = -.228). The full distribution of responses reveal that some of the participants were positively influenced by the social environment and employed personal goal-setting techniques to aid in implementation of the risk-assessment model. Conversely, the distribution also indicates that some workers were negatively influenced by their social environment and did not choose to employ personal goal-setting techniques.

The final construct of social cognitive theory included as an independent variable is perceived management-efficacy (PME). The variable measures an individual CPS worker’s perception of their agency management’s power and capability to accomplish the implementation of the new risk-assessment model. The principal sources of this perceptual/judgmental information are recollections and/or formed perceptions of past management attainments, and past problem solving successes of the agency. Perceived management-efficacy is measured on a seven item scale (Cronbach’s alpha = .8522). A high score denotes a perception of high management-efficacy on the part of the CPS worker. This would denote an impression that the management team was very capable and was also perceived to have the power to implement the new risk
assessment technology within the agency. There was a great difference of perception about management-efficacy in the responses. Scores had a mean of 57.6, a median of 59, a mode of 47 and a range of 76. The scores reflect a moderately negative perception of management's efficacy.

The effect of county membership (COUNTY), was constructed as the eighth independent variable using Cohen and Cohen's (1983) effects coding technique to include the effect of county membership (a nominal variable) in the regression formula (i.e., to examine if membership in a county unit had an influence on the dependent variable). Effects coding technique is the same in principle as dummy coding of nominal data. However Cohen and Cohen assert that:

> Effects coding is particularly appropriate with nominal scales when each group is most conveniently compared with the entire set of groups rather than with a single reference group, as is facilitated by dummy-variable coding (p.201).

Effects coding then takes all of the groups as an equally weighted aggregate as its point of reference for each of the groups, thereby allowing the comparison of one group with the others and allowing all groups of nominal data to be entered into the regression coefficient on one step to determine the impact of the effects coded variable upon the other variables in the formula. The results of the procedure are reported in the section on regression analysis.

The eighth and final independent variable included in the study is case outcome. Case outcome - is very narrowly
defined for the purpose of this study as adequate case decision making and describes the caseworker's ability and/or the risk-assessment tool's ability to correctly predict the future risk of the case and thereby protect the child. Case outcome was determined by comparing the worker's risk prediction (i.e., child placement decision) with the outcome of that decision (the status of the case at the time of the study). A positive case outcome rate equals a placement decision that is not reversed by another report of child maltreatment. A negative case outcome rate means putting a child in a placement that endangers the child and consequently having to reverse the placement decision because of another report of maltreatment.

This framework of case status decision making is based on the modification of the McDonald et al. (1989) case status questions as follows:

1. Was the case screened out after investigation and later reopened?
2. Was the case opened and/or referred for supervision and the child not removed and then later removed?
3. Was the child removed, reunified and the case later re-reported?
4. "Was the child then removed again?" (If the answer was yes to question three--Was the child then reunified and later re-reported?)
5. Was the case closed (apparently a success, or for administrative reasons) and later reopened, and/or referred for supervision, and/or was the child later removed again?
Measurement of the variable includes five possible (case status) outcomes and the results are reported in Table 5. The McDonald questions are all phrased negatively therefore the outcome score is constructed with a "no" answer indicating a positive direction and five "no" answers equaling the highest positive score (five) and the lowest possible score equaling zero (a negative score). A score of five indicates the best possible worker decision making (in regards to outcome) meaning that no child placement decisions were required to be reversed. Conversely, a score of zero equals the most possible reversals of a CPS worker’s decisions and the least desired outcome status.

The initial unit of analysis for case outcome was a "county CPS unit." The "county" unit of analysis was required because the case records used in the study were selected in a true random sample methodology and consisted of all of the pilot study CPS records in an entire county unit; therefore, case records selected could not be attributed to a specific individual caseworker participating in the study. Consequently an individual score was constructed and attributed to each worker by assigning the county mean (on the case outcome index) to each worker in a county.

The county mean score (see Table 5) was constructed by:

1. Tabulating all of the case-status decisions reversed for a county.
2. Determining the number of opportunities for case reversal per county (i.e., the number of cases X five—the five levels of case status representing five possibilities for decision reversal) per county.

3. Dividing the number of decisions reversed by the opportunities for reversal, this score equals the percentage of case decisions reversed (the mean reversal rate for the county).

4. The county reversal rate was then deducted from 100 to establish the mean success rate/outcome rate for the county. This county outcome rate was then assigned to each CPS worker in that county as a constructed (and attributed) individual decision success rate.

The county outcome rates were very much in a positive direction. The outcome rate (indicating successful case decisions that were not reversed) ranged from 89% to 100% with a mean of 96.71, a mode of 97, and a standard deviation of 2.91. The answers were negatively skewed (-1.591) with a positive kurtosis score (1.652). Therefore the results indicate a high case outcome rate and not a normal score distribution meaning that the majority of distribution of scores were in the tails of the distribution. The two low counties D and E were located in the left tail of the
distribution (with the lower outcome rates of 91% and 89%) and pulled the mean slightly to the left. However, as Table 5 indicates, the scores for all counties were very high. The overall outcome rate for the ten counties in the study was ninety-seven percent indicating very few decision placements were reversed during the risk-assessment pilot project.

A similar high score was achieved by the counties in the completion rate of the risk assessment matrix (refer to Table 6). The county effectuation rates ranged from 91% to 100% with an average rate of 97% for all the counties.

**Summary of the independent variables**

The six social cognitive variables are theorized by Bandura (1986) and others (Wood et al., 1990; Bandura & Wood, 1989; Locke, Motowidlo & Bobko, 1986; Locke & Schweigher, 1979; Latham & Yukl, 1976; Locke, Cartledge, & Knerr, 1970) to present a significant effect on the implementation of a new skill by an individual participant. The variables have been discussed separately to this point; however, the individual scales were designed and presented with the dependent variable in one survey instrument when it was administered. Table 7 presents the correlation coefficients among the independent variables. It is of interest to note that the correlations are low to moderate, ranging from .2235 to .7713.
<table>
<thead>
<tr>
<th>CASE STATUS:</th>
<th>CASE DECISIONS REVERSED BY LEVEL AND COUNTY:</th>
<th>STUDY TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Was the case screened out after investigation and later reopened?</td>
<td>A 2 0 0 1 6 2 1 1 2 1</td>
<td>16</td>
</tr>
<tr>
<td>2. Was the case opened for supervision and the child not removed and then later removed?</td>
<td>1</td>
<td>15 1 6 2 24</td>
</tr>
<tr>
<td>3. Was the child removed, reunified and the case later re-reported?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. If yes to item (3)--the child was reunified and later re-reported--&quot;Was the child then removed again?&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Was the case closed and later reopened, and/or was the child later removed again?</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>TOTAL DECISIONS REVERSED</td>
<td>2 0 0 3 6 2 16 2 7 3 41</td>
<td></td>
</tr>
<tr>
<td>TOTAL CASES REVIEWED</td>
<td>9 3 5 7 11 7 102 60 48 42 285</td>
<td></td>
</tr>
<tr>
<td>TOTAL OPPORTUNITIES FOR REVERSAL (Cases X 5)</td>
<td>45 15 25 35 55 35 510 200 240 210 1370</td>
<td></td>
</tr>
<tr>
<td>PERCENTAGE OF REVERSALS (County reversal rate)</td>
<td>.04 .00 .09 11.0 .03 .03 .03 .03</td>
<td></td>
</tr>
<tr>
<td>COUNTY CASE OUTCOME RATE</td>
<td>98% 100% 100% 91% 89% 94% 97% 99% 97% 99% 97%</td>
<td></td>
</tr>
</tbody>
</table>
In total 285 case records were reviewed on a random sample basis using the case record checklist. Twenty-three items were reviewed on each record for required data. 6363 of the required 6532 items were found to have been completed—-for an average missing data rate (error rate) of three percent for the ten counties. The item found to be most often missing was the casework supervisor’s signature in the review section of the document.
TABLE 7: INDEPENDENT VARIABLE CORRELATION COEFFICIENTS

<table>
<thead>
<tr>
<th></th>
<th>SELFEFF</th>
<th>All</th>
<th>RMMI</th>
<th>MOTREG</th>
<th>PME</th>
<th>SELFMOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFEFF</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>0.6047</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMMI</td>
<td>0.2566</td>
<td>0.4485</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTREG</td>
<td>0.3416</td>
<td>0.4599</td>
<td>0.2810</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PME</td>
<td>0.7713</td>
<td>0.6539</td>
<td>0.2882</td>
<td>0.3036</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>SELFMOT</td>
<td>0.6561</td>
<td>0.6367</td>
<td>0.2235</td>
<td>0.3319</td>
<td>0.6285</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Having minimally correlated independent variables is desirable from the perspective of collinearity (high correlation between two or more independent variables) and multicollinearity (high collinearity between three or more independent variables). High collinearity in the independent variable matrix is generally considered .90 and above (Hair et al., 1992), and the presence of multicollinearity would violate one of the general statistical assumptions for using the multiple regression analysis (i.e. that there is no multicollinearity). Regression coefficients obtained under the condition of multicollinearity may present a misleading relationship between the independent variables and the dependent variable (Hair et al., 1992; Cohen & Cohen, 1983). The initial examination of the correlation matrix gave support to the planned multiple regression analysis.

The dependent variable in the study is Expressed Implementation (EXPRSIMP) which means the expressed (or self
reported) degree to which the new *The Ohio Family Risk Assessment Matrix* was incorporated by each CPS worker in their daily assessment and casework routines. Expressed Implementation was determined by a scale of 20 questions measuring a CPS worker’s perceptions about use, utility, and importance of the risk-assessment instrument in the many aspects of their daily casework routines—including decision making, service planning, case documentation, and case supervision. The scale indicates self-ascribed use, level of implementation and desire for continued use of the matrix with a high score indicating a high implementation rate and a low score the inverse. The scale has a reliability coefficient of .8934 (Cronbach’s alpha).

The variable had a near normal curve of responses. The mean was 61.2, median 60.5, mode 59, and the standard deviation was 10.46. The scores had a range of 49 (from 38 to 87) and the distribution was slightly skewed to the left (-.228). The near normal distribution of scores on the dependent variable reveals that there was good variability in the expressed implementation of the participants; the scores were on the low positive side with the mean, median and mode almost being equal near 60.

**The Hierarchical Regression Model**

The results reported in this section are concerned with the relationship between the six independent social cognitive
variables and the expressed implementation of the three hundred and sixteen (n=316) CPS workers in the study. In hierarchical regression individual variables, or sets of variables, are entered into a regression equation sequentially. The use of hierarchical regression in this study is guided by the theoretical contentions of Bandura's social cognitive theory (1986) and the analytical formulation of Akers et al. (1979). There are three hierarchical regression analyses reported in this study. The first is an examination of current social cognitive theory. The second analysis adds case outcome (OUTCOME) to the regression formula. The third regression adds the variable (COUNTY) to the model and examines if the effect of being a member of a county or district CPS office has an influence on expressed implementation (the dependent variable).

First Hierarchical Regression Analysis

The hierarchical analysis was designed to examine the positions of social cognitive theory in more detail and to determine if the constructs and assertions were valid in relation to the self-expressed implementation of the Ohio Risk Assessment Matrix by the CPS workers in the study. The variables used in the first analysis were perceived self-efficacy (SELFEFF), attentional-informative influences (AII), retentional mastery-modeling influences (RMMI), motivational-regulative influences (MOTREG), self-motivational
influences (SELFMOT), and perceived management-efficacy (PME). The variables were entered on independent steps. The strategy of hierarchical regression is to examine the unique relationship between independent variables or variable sets and a single dependent variable. Essentially this technique partitions the explained variance of the dependent variable into portions uniquely accounted for by particular sets. This is accomplished by entering a series of simultaneous regression equations with each subsequent equation adding another variable of interest. The increase in the amount of variance explained ($R^2$) is attributable to the current variable or set of variables entered into the analysis (Hair et al., 1992; Cohen & Cohen, 1983).

In hierarchical analysis the choice of particular variables is made in advance and dictated by the purpose and logic of the study. Order of entry is usually determined by the research relevance, theorized causal priority and structural properties of the research. In general, the contribution to $R^2$ may depend on the other variables previously entered in the equation; thus establishing a thoughtful order of entry may help in future testing of the model (Cohen & Cohen, 1983).

Two major questions were considered in establishing the order of entry: "What is the correct order of entry for the six social cognitive theory variables?" and "Should the additional two variables (seven and eight) be entered first
or last?" Cohen and Cohen (1983) offer insight into the latter question as they explain that a researcher frequently gathers data on variables that are in addition to the major goals of the research, and that when it comes to the formation of the hierarchical regression equation, these additional variables may be considered secondary and entered after what the researcher feels to be primary. Consequently, variables seven and eight were deemed of secondary importance as they were not the main focus of the research design and therefore deemed less relevant to the research. The same rationale was used to decide between the variables seven and eight; with the decision to value the studying of case outcome over the value of studying the effect of county membership. This decision was made because of the current interest in the risk-assessment literature to examine the effect of outcome.

Four of the entry steps for the social cognitive theory variables were easily determined by the literature placing attentional-informative processes first, retentional processes second, motivational regulatory third and self-motivational last (Bandura, 1986). Self-motivational influences was also chosen to be last overall because its make up in this study included the (final) decision of how much effort to put forth in implementation of the risk-assessment model (i.e., to implement or not implement).
However the correct placement of self-efficacy and perceived management-efficacy was more ambiguous in the literature (Wood, et al., 1990; Bandura, 1986). The perception of management-efficacy was chosen as step five (next to last) because it would have to precede the last decision making step (self-motivation). It was also logical to conclude that a portion of the perception of management’s efficacy would be constructed by observing current management actions in the use of attentional-informative, retentional mastery-modeling, and motivational-regulatory processes in the effort to implement the new risk assessment model.

Deciding where to place perceived self-efficacy was the most difficult task even though this was the most studied of all the social cognitive variables. The literature makes it apparent that judgements of personal self-efficacy would be occurring during all phases of implementation (Bandura 1989c; 1988, 1986; Bandura & Cervone, 1986, 1983; Bandura & Schunk, 1981). However, because the variable has been hypothesized to be the most important influence on human behavior the decision was made to enter it first and study the effect of the other variables being added to the equation. This decision was supported by the literature to some extent by the predictive qualities ascribed to the perception of self-efficacy (Bandura, 1989, 1989c, 1988, 1986) and by the conclusion from the univariate data that the average CPS worker would have an existing perception of their risk-
assessment efficacy due to the mean time of professional experience being three years and the mode equaling one year.

Explanation of elements of the analysis. In the regression analysis $R$ is the multiple coefficient of correlation. It is the measure of association between a dependent variable and an optimal combination of two or more independent variables. $R$ takes on values of 0 to 1, with 0 indicating no relationship and 1 indicating a perfect relationship (Cohen & Cohen, 1983, p.86).

The square of the multiple correlation coefficient is referred to as $R^2$ (also called the coefficient of determination). $R^2$ is a statistic used to describe the magnitude of the regression of the dependent variable ($Y$) on the independent variables ($X's$). It is an estimate of the proportion of variance of the dependent variable explained by the linear combination of the independent variables. It is also an indication of how powerful an explanation the regression model provides; in other words, it describes the "goodness of fit" of the regression model. The coefficient can vary between 0 and 1. The higher the $R^2$ value, the greater the explanatory power of the regression equation and the better the prediction of the dependent variable. Values of less than 1 indicate that other important variables which could help in the explanation have yet to be entered (or perhaps, yet to be determined). Within the implementation framework a value of 1 would indicate the full explanation of
the implementation of the new risk-assessment model and a lack of an explanation of implementation. Table 8 contains the results of the first hierarchical regression analysis for the social cognitive variables (Warmbrod, 1993b; Cohen & Cohen, 1983).

### Table 8: First Hierarchical Analysis

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>STEP ENTERED</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFEFF</td>
<td>1</td>
<td>.4596</td>
<td></td>
</tr>
<tr>
<td>AII</td>
<td>2</td>
<td>.5812</td>
<td>.1216*</td>
</tr>
<tr>
<td>RMMI</td>
<td>3</td>
<td>.6012</td>
<td>.0200*</td>
</tr>
<tr>
<td>MOTREG</td>
<td>4</td>
<td>.6174</td>
<td>.0162*</td>
</tr>
<tr>
<td>PME</td>
<td>5</td>
<td>.6372</td>
<td>.0198*</td>
</tr>
<tr>
<td>SELFMOT</td>
<td>6</td>
<td>.6552</td>
<td>.0180*</td>
</tr>
</tbody>
</table>

$F = 97.86 \ p = < .001 \ DF = 6, 309 \ * p < .05$

In the interpretation of the hierarchical regression model, the most important elements upon which to focus are the value of $R^2$ and the increment value of $R^2$ indicated by the addition of the last variable (or set of variables) entered into the equation. For instance, the first variable perceived self-efficacy (SELFEFF) accounts for 46% of the variance explained in the dependent variable (EXPRSIMP). The increment value of contribution for each subsequent entry was: attentional-informative influences (12.2%), retentional
mastery-modeling influences (2%), motivational-regulational influences (1.6%), perceived management-efficacy (2%) and self-motivational influences (1.8%). These values can be interpreted directly as indications of the strength of an independent variable to the dependent variable (expressed implementation).

An examination of results of the hierarchical regression model confirm that the constructs of social cognitive theory do have relevance in the area of risk-assessment implementation. The model results indicate that approximately 65.5% ($R^2 = .65520$) of the variance of the dependent variable (EXPRSIMP) Expressed Implementation, is accounted for by a linear combination of the independent variables of the social cognitive theory model. The F-test is used to test the model and the decision rule is that if alpha observed is less than critical alpha then you will reject the null hypothesis. In this particular case (F= 97.86, $p = <.001$). Therefore, the null is rejected and the regression model is found to be statistically significant.

Additional Elements of the Analysis. The hierarchical regression model provides other information of interest to the present exploration. Additional statistics offered by regression equation are shown in Table 9. The first is the partial regression coefficient indicated by the letter B. This coefficient indicates the expected change in (Y) the dependent variable with one unit change in $X_k$ when the other
independent variables are held constant. The magnitude of a partial regression coefficient will depend on the unit of measurement of a given independent variable; therefore, partial regression coefficients are not to be used as the sole source of comparisons of the relative importance of variables. Instead standardized partial regression coefficients are used—these are termed Beta coefficients and are listed under the heading "Beta." Also of interest is the T statistic and the Significance of T (Sig T) statistic. The T statistic answers the question: "Does each independent variable contribute significantly to the model? This is the standard T test of the statistical (null) hypothesis (Ho: \( B_k = 0 \)). This rule is actually testing the last partial correlation coefficient entered into the equation and is testing the hypothesis that the independent variable with which the partial regression coefficient is associated does not contribute significantly to the regression when the other independent variables are held constant (Warmbrod, 1993b). The decision rule used to reach this decision is that if the significance of t is less than the critical t (of .05 in this case) then we reject the null.

Therefore an examination of Table 9 allows us to draw the following conclusions about the model when used with the current sample. First, we are able to reject the null for all independent variables entered into the equation. The total model also remains significant at the last step with
TABLE 9: FIRST REGRESSION BETA ANALYSIS

<table>
<thead>
<tr>
<th>IND.V.</th>
<th>B</th>
<th>Beta</th>
<th>T</th>
<th>SIG T</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFEFF</td>
<td>.2550</td>
<td>.1893</td>
<td>3.355</td>
<td>.0009</td>
</tr>
<tr>
<td>AII</td>
<td>.6351</td>
<td>.3131</td>
<td>5.866</td>
<td>.0001</td>
</tr>
<tr>
<td>RMMI</td>
<td>-.4657</td>
<td>-.1569</td>
<td>-4.158</td>
<td>.0001</td>
</tr>
<tr>
<td>MOTREG</td>
<td>.3668</td>
<td>.1489</td>
<td>3.195</td>
<td>.0001</td>
</tr>
<tr>
<td>PME</td>
<td>.4406</td>
<td>.2092</td>
<td>3.665</td>
<td>.0003</td>
</tr>
<tr>
<td>SELFMOI</td>
<td>.4929</td>
<td>.1965</td>
<td>4.013</td>
<td>.0001</td>
</tr>
<tr>
<td>(Constant)</td>
<td>10.1448</td>
<td>2.819</td>
<td></td>
<td>.0051</td>
</tr>
</tbody>
</table>

F = 97.86  p = <.001  DF=6, 309

each individual variable making a significant contribution to the model (T test of significance). The six social cognitive theory variables were also subjected to individual F tests at each level and each was found to enter the equation at a level of significance (.05 alpha). The relative contributions of each variable in the final equation are notable. Relative contributions are indicated by the Beta statistic:

The Beta coefficient is a standardized regression coefficient allowing for direct comparison between coefficients as to their relative explanatory power of the dependent variable (Hair et al., 1992, p.20).

Consequently we see that the most important relative contribution to Expressed Implementation was made by (AII) attentional-informative influences (.3131), and the second was (PME) perceived management-efficacy (.2092). These two variables were followed in order of importance by: (SELFMOI)
self-motivational influences (.1965), (SELFEFF) perceived self-efficacy to implement the risk-assessment model (.1893),
(RMMI) retentional mastery-modeling influences (-.1569), and
(MOTREG) motivational-regulatory influences (.1489),
respectively. The negative sign attached to (RMMI) retentional mastery-modeling influences (-.1569) does not change its order of importance in the model but does indicate that the training experience was inversely related to the dependent variable, and therefore to implementation of the risk-assessment model. The findings are not exactly as one would intuit and are discussed further in the summary of this analysis and chapter five.

Testing the Assumptions of the Multiple Regression Procedure. The use of multiple regression as a tool of analysis requires attention to a number of assumptions. The first is the issue of multicollinearity. Multicollinearity is usually addressed as it was in part one of the results section by a check of the correlation matrix. The correlation table for this model did not reveal significant collinearity or multicollinearity. Multicollinearity can also be tested by the examination of tolerance and variance inflation factor (VIF) values. Tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. The best tolerance score is 1.00 and tolerance values below .10 suggest difficulty with multicollinearity. Tolerance values
for the model ranged from .343 (PME) to .783 (RMMI). A third indicator of multicollinearity is the VIF score. The VIF score is the reverse of the tolerance value and high scores (over 10) indicate concern (Hair et al., 1992). The VIF values for the model range from 1.2 (MOTREG) to 2.92 (PME). Thus, both the VIF and tolerance levels are well within the range of safety and do not indicate multicollinearity.

Additional assumptions about the residuals should also be examined when using multiple regression procedures. Residuals are the errors in the predicted values of the sample and multiple regression requires an examination of the residuals to be confident that the model does not contain multicollinearity. First it is assumed that the residuals are independent and that the error associated with any observation is not correlated with the error associated with any other observation. It is also assumed that the residuals have a constant variance and that the residuals are not correlated with the independent variables. Residual assumptions were tested by examining scatter plots of the standardized residuals which revealed an almost a constant variance within approximately 2 standard deviations, again a sign of no collinearity problems. Finally it is also assumed that the residuals are normally distributed. This assumption was tested by an examination of the histogram of standardized residuals and the normal probability plot. Both were essentially normal in appearance. The first approximating
the normal curve and the latter strongly approximating a linear distribution (straight line).

In summary, the results of the hierarchical regression set forth a model explaining 65% of the variance in the dependent variable without apparent violations of the assumptions underlying the procedure. The model confirms the significance of the variables contained in the social cognitive perspective of Bandura as influences on and indicators of the implementation of the Ohio Family Risk Assessment Matrix. The model's most important relative contributions to explanation of the variance in the self-reported implementation of the risk-assessment matrix was made by attentional-informational influences or the manner in which the matrix was designed and initially presented to the CPS workers. The second most important contribution was made by the perceived efficacy of the management team, followed by self-motivational influences (social environment + personal goal-setting + personal effort) and perception of self-efficacy or the perception of being able to learn and use the matrix.

The training activities were inversely related to implementation (on the surface this is surprising) but a closer examination of the questions comprising the retentional mastery-modeling influences variable reveal that the workers were generally dissatisfied with the training as conducted. The motivational-regulatory methods used by
agency management offered the least to the successful implementation of the model but this was also an area of less variance in methodology and therefore seems to conform with common sense.

**Results of the Second Hierarchical Regression Analysis**

The second hierarchical analysis examined the influence of the variable OUTCOME on the dependent variable. Table 10 contains the results of the second hierarchical regression analysis for the social cognitive variables and outcome.

**TABLE 10: SECOND HIERARCHICAL ANALYSIS**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>STEP ENTERED</th>
<th>R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELFEFF</td>
<td>1</td>
<td>.4596</td>
<td></td>
</tr>
<tr>
<td>AII</td>
<td>2</td>
<td>.5812</td>
<td>.1216*</td>
</tr>
<tr>
<td>RMMI</td>
<td>3</td>
<td>.6012</td>
<td>.0200*</td>
</tr>
<tr>
<td>MOTREG</td>
<td>4</td>
<td>.6174</td>
<td>.0162*</td>
</tr>
<tr>
<td>PME</td>
<td>5</td>
<td>.6372</td>
<td>.0198*</td>
</tr>
<tr>
<td>SELFMOT</td>
<td>6</td>
<td>.6552</td>
<td>.0180*</td>
</tr>
<tr>
<td>OUTCOME</td>
<td>7</td>
<td>.6631</td>
<td>.0079</td>
</tr>
</tbody>
</table>

F=86.61  p<.001  DF=7, 308  *p = <.05

The six social cognitive variables were entered as before and OUTCOME was entered on the seventh step. The results of the second hierarchical regression model indicate that outcome
added (.008) to the amount of variance explained in the dependent variable \( R^2 = .6632 \). The model remained statistically significant \( (F=86.61, p<.001) \) but the addition of the variable OUTCOME was not statistically significant and OUTCOME was not added to the equation.

**Results of the Third Hierarchical Regression Analysis**

The third analysis used the previous hierarchical regression approach with the addition of COUNTY (the effect of county membership) as the seventh step of the regression model after the addition of the six social cognitive variables. Table 11 contains the third hierarchical analysis.

**TABLE 11: THIRD HIERARCHICAL ANALYSIS**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>STEP ENTERED</th>
<th>( R^2 )</th>
<th>( R^2 ) Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>SELPEFF</td>
<td>1</td>
<td>.4596</td>
<td></td>
</tr>
<tr>
<td>AII</td>
<td>2</td>
<td>.5812</td>
<td>.1216*</td>
</tr>
<tr>
<td>RMMI</td>
<td>3</td>
<td>.6012</td>
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</tr>
<tr>
<td>MOTREG</td>
<td>4</td>
<td>.6174</td>
<td>.0162*</td>
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<tr>
<td>PME</td>
<td>5</td>
<td>.6372</td>
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<tr>
<td>SELFMOT</td>
<td>6</td>
<td>.6552</td>
<td>.0180*</td>
</tr>
<tr>
<td>COUNTY</td>
<td>7</td>
<td>.7026</td>
<td>.0474*</td>
</tr>
</tbody>
</table>

\( F=47.26 \ p<.001 \ DF=15, 300 \ * p = <.05 \)
The results of the third hierarchical regression model indicate that COUNTY (i.e., membership in a particular county or district office work unit) added an additional 4.7% to the amount of variance explained ($R^2 = .7026$) in the dependent variable. The model remained statistically significant and the addition of the variable COUNTY was also statistically significant and was added to the final equation. The model was subjected to the same residual and multicollinearity tests without apparent problems in either area.

An examination of the results allows us to draw the following conclusions about the model when used with the current sample. First, we are able to reject the null hypothesis for all of the independent variables entered into the equation. All seven variables were subjected to partial $F$ tests at each step and each was found to enter the equation at a level of significance (.05 alpha). The total model also remains significant at the last step ($F = 47.26$ $p<.001$ df=15, 300) with each social cognitive variable remaining in the equation and making a significant contribution to the model. However, the relative contributions of each social cognitive variable (indicated by the Beta statistic) changed in order of contribution: attentional-informative influences remained first (.3226), but self-efficacy moved to second (.2546), perceived management-efficacy (.1563) dropped significantly to third, followed by self-motivation (.1328), motivational-regulatory influences (.1200), and retentional mastery
modeling influences (-.1134). The effects coding technique, shares with dummy coding dependency on size ($n_j$); this in consequence does not make Beta analytically useful with nominal scales such as interpreting the individual Beta significance of county membership (Cohen & Cohen, 1983). Thus, county membership while a somewhat ambiguous concept did create a change in the relative importance of the contributions of the social cognitive variables of the model and does add to the variance explained in implementation. Consequently the change in the Beta statistic of the other variables seems to suggest that the effect of county membership shares much of its power to contribute to the model with perceived management-efficacy and borrows a smaller portion of its effect from self-motivation (which includes the effects of peer social influence), motivational-regulatory influences, and retentional mastery-modeling influences which continued to keep its inverse (-) relationship to the dependent variable.

It is also notable that attentional informative influences maintained it position as the most relevant contributor to the equation and self-efficacy increased in importance. The movement of self-efficacy (to second) perhaps indicates that when all county effects are entered--the second most important influence on implementation or non-implementation is a strong sense of personal efficacy. However, the manner in which the new innovation was
introduced still had the most important impact on an overall personal decision to implement.
CHAPTER V

DISCUSSION AND IMPLICATIONS

This study was undertaken to explore and describe the implementation behavior of Child Protective Services workers in the child welfare system. The practice problem explored in this study was concerned with the acquisition of knowledge about the factors influencing an individual practitioner to implement or not implement a new risk-assessment technology. More specifically, a technology provided with the intention that it is to be personally incorporated in day to day assessment and decision making activities.

The study involved three hundred and sixteen full-time employees of Child Protective Services units in ten Ohio counties involved in a pilot study of the Ohio Family Risk Assessment Matrix. The participants were volunteers, but were chosen in such a manner as to provide a representative sample of the 895 Child Protective Service workers employed by their ten counties. The participants completed a lengthy unsigned confidential questionnaire that was completed in small groups, at survey sites provided by the CPS agencies, and personally supervised by the researcher. The answers provided by the survey were the major focus of this analysis and discussion. However, three additional contributions were
provided in this study. The first was a descriptive critique of the current status of implementation theory and its application to the problems of risk-assessment in Child Protective Services. The conclusions of the descriptive analysis influenced an exploration of implementation factors with a primary emphasis on examining the utility of Bandura’s (1986) social cognitive theory as a guide to implementation and evaluation of implementation processes.

The second contribution was an extensive random sample review of the case records in the ten pilot counties to record actual use of the new risk-assessment instrument and determine the present case outcome rate of the CPS units. Thirdly, the study explored and confirmed the utility of using self-reported implementation (expressed implementation) as an additional measurement tool.

Conclusions

Six primary research questions were addressed in the study. A summary of the relevant findings and personal observations on those findings follow each of the questions.

**Question 1. Are the six dimensions of Social Cognitive Theory useful to explain the implementation of risk-assessment technology in Child Protective Service units?**

**Conclusion 1.** The study concludes that Bandura’s (1986) social cognitive theory has relevance and utility in explaining the personal decision to implement or not implement new risk-assessment technology by individual CPS
workers. Overall the following data contribute to and support the conclusion. The measurement of the six dimensions of Bandura's social cognitive theory was accomplished by the construction of survey questions that were combined into scales to reflect each dimension as an independent variable. The independent variables were used in a regression formula to examine their influence on the dependent variable "expressed implementation." All six social cognitive variables contributed to the regression model in a statistically significant manner and remained in the full model when completed. The social cognitive variables helped explain 65% percent of the variance in the dependent variable—Expressed (self-reported) Implementation. Contributions of the variables varied but that is also one of the principles of hierarchial regression; i.e. the first variable entered into the equation usually reports the majority of the shared variance and the other variables add to it. Consequently, the relative importance of the contribution of each variable is one of the important items of analysis. The first variable entered into the equation and initially posited to be the most important to the implementation process by the researcher was perceived self-efficacy. The initial entry of self-efficacy was strongly supported by existing research (Holden, 1991; Berry et al., 1989; Bandura 1986, 1977; Cervone & Peak, 1986; Schunk, 1984; Bandura & Cervone, 1983). Self-efficacy was a significant
initial entry in the regression formula with an $R^2$ coefficient of .4596; however, in the subsequent analysis the contribution of self-efficacy (reflected by Beta) was fourth following attentional-informative influences, perceived management-efficacy, and self-motivational influences; and in the final regression model (with the effect of county membership added) self-efficacy was still second to attentional-informative influences.

It may be possible that in risk-assessment implementation this result will hold true; however, the finding may have also been due to the fact that the self-efficacy rating was not a true pre-test indicator of self-efficacy (i.e., the pilot introduction of the risk-assessment model preceded this project and the pretest was given retrospectively and may have been influenced by time). Consequently future implementation research could consider the measurement of self-efficacy at various stages of the implementation process for a comparison.

In this study however, the importance of attentional-informative influences in the implementation process is significant. This fact is supported by the Beta statistic in the first and third regression analysis and was confirmed by a subsequent hierarchical regression analysis that entered the variable on the first step. In this second confirmatory analysis the $R^2$ coefficient of .4729 of attentional-informative influences was higher than the initial entry
coefficient of self-efficacy. In retrospect, the significance of the influence of the attentional-informative processes upon the decision to implement or not implement is not surprising. In fact the finding is congruent with Grusec’s (1992) synopsis of the differences between Bandura’s learning perspectives and that of other developmental psychologists. Grusec underscores that attention is fundamental to the modeling process and the modeling process is the external source of the self-regulatory process. The attentional process has also received strong emphasis in Bandura’s current writings (1989, 1986).

Conclusion 2. Therefore, the study concludes that the introduction, explanation, and internal marketing of a new technology needs stronger emphasis than was offered by the pilot agencies involved in the study. The attentional-informative process is defined as the process by which a new innovation is initially presented to the learner; this includes building a positive atmosphere for acceptance of the new model, choosing a design for the model to be learned that makes sense to the learner, providing adequate and timely information, getting the person emotionally attentive and attracted to the model, and building an expectation of anticipated positive consequences for implementing the system (Bandura, 1986, 1971; Bandura, Grusec, & Menlove, 1966; Bullock, 1983; Yussen, 1974). Bandura asserts that the attentional-informative process is one of the most crucial
sub-processes of observational learning; and that it is the initial attraction of a new model that determines what is selectively observed and learned. In the learning of complex models (such as risk-assessment), observers learn as a generative process drawing from their experiences with similar examples. Personal learning and implementation is also affected by the innovation's salience, affective valence (amount of attraction), complexity, functional value, the observer's expectation of utility, and the perceived impact on the worker's values and belief system.

Consequently, attentional activities should help each CPS worker to understand and identify with the personal benefits of using the new technology, and the subsequent benefits the technology may hold for clients of the worker. Affective valance is enhanced by the choice of a design for new the technology that makes sense to the worker from a theoretical and functional viewpoint. Acceptance of a new innovation has also been postulated by Carter (1987), Thomas (1984), Rothman (1980), Daft and Becker (1978), and Zaltman, Duncan and Holbeck (1973) to be influenced by the amount of staff participation in the design, and it seems to this researcher that perceived openness to staff input at the design or modification phase is an important attentional concern.

**Conclusion 3.** More emphasis should be placed on modeling in the implementation process. The third variable,
the use of retentional and mastery modeling approaches was limited in this survey to measuring general satisfaction with the training during the implementation process. Although the groups were moderately satisfied with training overall (mean score of 79.7 on a 100 point scale) the results did not offer a real test of Bandura's idea of training. In social cognitive theory, learning and retention of new skills is seen as a total training/modeling process in which the management and training team attempt to teach the implementor by the use of positive exemplary mastery modeling. Modeling and therefore, implementation may be enhanced by the following retentional means: accentuation of essential characteristics of the desired activity, providing adequate directional narrative, contrasting good and poor modeling experiences, dividing complex skills into more easily learned smaller units and steps, and highlighting essential elements of the new innovation. Excellent training models can aid the retention process by creating practice sessions between observations and by the use of team planning and team teaching, symbolic presentations, verbal presentations, cognitive rehearsal, and simulated conditioning (including role playing) to aid in teaching, learning, and retention. Study participants indicated that they had not experienced the use of most of these methods during the time they were learning the system. Therefore, a strong test of the validity of this concept was not included; on the other hand
the lack of a strong endorsement for the limited training methods used (verbal presentation and an overhead projector) lead to the conclusion that more variety would be of value in future training contemplated for risk-assessment trainees.

Conclusion 4. Training should be emphasized and enhanced. Chapter four’s examination of the survey’s results regarding training showed that training was the one area that both high implementors and low implementors (divided at the 75th percentile) were in agreement on every answer. Both groups perceived the training as—less than adequate to learn the new model, not providing enough practice, and not as interesting as it should have been; however both groups rated the trainers as adequate (neither very good or poor). Consequently, it seems fair to conclude that more emphasis needs to placed on training as an essential component of implementation, and that more experimentation with retentional methodologies, modeling, and training equipment is needed. This conclusion is supported strongly supported by McLaughlin’s (1976) study that training activities were a critical part of implementation and that training must be a continuous activity. In fact McLaughlin found that training concentrated only at the beginning of project was not effective.

Conclusion 5. More effort should be directed at problem solving, positive reinforcement and provision of social support and/or stress reduction programs for staff. The use
of motivational-regulatory approaches by management as an aid to influence acceptance and implementation was again an area that lacked staff endorsement in the study. The CPS worker perceived very little use of positive or negative incentives, problem solving, value shaping exercises, or stress reduction programs to influence implementation of the model.

Money and time off (two very large incentives) may be difficult to use in the civil service system but other types of recognition of effort may be valuable considerations for future implementation. Motivational-regulatory approaches also include the way in which the management team uses goal-setting exercises, problem-solving exercises, value-shaping exercises, and stress reduction activities--to influence performance and implementation; these processes are inexpensive and should be easy for social work agencies to institute; but study participants did not perceive them to be in abundant use in the ten pilot counties.

Somewhat related in concept to motivational-regulatory influences was the fifth social cognitive variable in the study—perceived management-efficacy. Perceived management-efficacy was defined as the CPS worker’s perception of management’s ability to institute the new risk-assessment model. This area was measured by having workers rate their perceptions of past agency successes in introducing new projects and by having them predict the success of implementing the present risk-assessment project. The
workers also reported their perceptions of the management team's abilities since introducing the new model. Perceived management-efficacy was the area of greatest negative perception by the staff and was ranked as second in relative contribution to the explanation of variance explained in the dependent variable.

Conclusion 6. A more proactive stance regarding the risk-assessment model is need from agency managers. It is conjectured that the negative perception of management efficacy may be that result of two other dynamics operating in the work environment: (1) a cumulative rating of staff perceptions of management actions in the other areas of implementation (attentional-informative, retentional mastery-modeling, and motivational-regulatory influences); (2) and a lack of modeling support for the new risk-assessment model. The results indicate that managers were slightly less prone to be in the high implementors group than direct service staff (31% versus 33%) and did not differ on overall implementation rates, expressed job satisfaction, satisfaction with training, or effort put forth to learn and implement the system; consequently the lack of support for the new innovation may have been interpreted by staff as lack of ability to implement or lack of power to stop the new innovation with either opinion leading to a low rating of perceived management efficacy.
Thus, it seems that managers in general will have to take a more proactive stance to facilitate the implementation of a new risk-assessment model and to help train and motivate the direct service staff to achieve implementation. This will necessitate the implementation of all the motivational techniques discussed in the study (problem solving, goal setting, use of incentives, use of stress reduction programs, and the use of exemplary mastery modeling). This argument is supported by Wood et al. (1990) in their assertion that managers "must understand how their decisions affect the motivation and performance of others" (p.182).

The final social cognitive variable considered in the study was self-motivation and regulatory influences (i.e., the self-report of personal commitment, level of effort, and personal goal-setting to help in the implementation process). Workers reported little use of personal goal-setting and varying degrees of effort and commitment (range of scores from 31 to 100). Again there was considerable difference between implementors above and below the 50th percentile on this scale (mean difference 13.81, t-value 16.86, df=153, sig of t = .001 @ 95% confidence level, 2 tailed test).

**Conclusion 7.** In summary, it is a conclusion of this study that the use of Bandura's social cognitive theory is extremely useful to guide and evaluate implementation of risk-assessment models in Child Protective Services. The data strongly support that the six independent variables
asserted by Bandura to influence human learning and implementation of new skills do have an influence on the self-reported implementation of the workers in this study. In contrast no other single personal characteristic in the study, (age, position, race, gender, or education) was found to be a significant indicator of implementation or non-implementation. Therefore, there is a clear indication of the worthiness of continued research in this area.

**Question 2.** To what degree has the "Ohio Family Risk-assessment Matrix" been implemented by Child Protective Services workers in the pilot counties studied?

Implementation in the area of risk-assessment was defined in this study (Chapter II) as a two fold act: (1) the individual sagacity of the worker (i.e., the worker knows that the risk-assessment model is being personally used to aid in the case decision making process), and (2) the completion of necessary documentation.

**Conclusion 8.** Considering the latter proposition first, the risk-assessment record keeping of the pilot counties is adequate (and perhaps outstanding). An examination of case records reveal a 97% completion rate of the risk-assessment matrix (Table 6: Case Record Checklist), a commendable accomplishment.

**Conclusions 9 and 10.** A definition of adequacy of implementation is needed and implementation of the Ohio Family Risk Assessment Matrix as an aid in decision making is
inadequate. If implementation is defined as the use of the Ohio Family Risk Assessment Matrix as a guide and aid in the risk-assessment judgment process, the "expressed use" of the risk-assessment model revealed extensive variation in implementation. The data indicate that there was a full range of 49 percentage points on a 100 point scale. Consequently a different question emerges, "When is implementation--implementation?" (What is an acceptable level of implementation?) This study did not set out to answer this question but contemplates the answer. What is a good cut off point for the likelihood of implementation--is it the 50th percentile? If the group of CPS workers considered in this study is broken at the 50th percentile, the self-reported implementation score would be a score of sixty one percent on the "expressed implementation" scale; and in that instance 154 workers would be below the line of implementation and 162 would remain above the line. If the implementation scale was to be viewed as a "pass fail test" with sixty percent as a passing score the 50th percentile would seem like a potentially fair indication of implementation in this study.

On the other hand, Rapp and Poertner (1987), writing in reference to program implementation assert that a program design is not credible unless it is achievable by 75 to 100 percent of the staff. If we were to use a 75% score as an index of achievement and the standard for implementation of
the risk-assessment system, the model will need more time to achieve adequate implementation. Using a score of 75% on the implementation scale would move the cutoff point to the 93rd percentile and only twenty-two staff members would be seen as implementors; therefore the definition of implementation is a very debatable point. Furthermore, there is very little clarification in the literature regarding effective implementation; perhaps the most related discussion (focused on client outcomes) emerged in the seventies with a series of articles published on the failure of social work interventions (Mullen & Dumpson, 1972; Fischer, 1973, 1976; Wood, 1978). The failure stories triggered counterpoint studies of program effectiveness (Reid & Hanrahan, 1982; Rubin 1985; Fischer, 1983) but effectiveness was usually measured as an client outcome that simply compared a client's present behavior to a previous baseline behavior with two notable exceptions—the works of Carter (1988, 1983). Carter's measurements were client focused but established what were termed "realistic" baseline outcomes for child protective services. The first was an effectiveness rate for programs that worked with abusing adults and accepted a forty-two percent reduction in the propensity to reabuse or reneglect as a reasonable baseline. The second was the establishment of an eighty percent correct decision/placement (case status) rate as an acceptable case outcome rate.
Unfortunately we are offered no further guidance from the literature as to acceptable staff implementation rates. However, we are offered additional enlightenment by the self-reported answers of the CPS workers in the current study. The workers were asked to answer two explicit implementation questions. The first being: "I feel that I have presently implemented the risk-assessment matrix about ___ percent of the time in my practice" (CPS workers were given the opportunity to put a X on a continuous scale line marked from 0 to 100% to answer this question). Seventy-six percent of the staff indicated that they had implemented the matrix in their practice about 50% of the time or more; sixty-five percent of the staff indicated that they had implemented the matrix 60% of the time or more; forty percent of the staff indicated that they had implemented the matrix 75% of the time or more; and ten percent 98% or more.

A second question (completed in the same fashion—an X on a continuous scale line) stated: "I feel that I use the risk-assessment matrix in my decision making about ___% of the time." Responses to this question indicated that fifty-five percent of the staff used the matrix in their decisions about 50% of the time; thirty-nine percent used it 60% of the time or more; twenty-two percent used it 75% or more; and three percent used it 98 percent or more as an aid in their decision making.
Extrapolating data from the staff answers to the two questions cited, it would appear that 65 percent of the workers use the matrix as their method of achieving a final risk-assessment hypothesis about 50% of the time; fifty-two percent about 60% of the time or more; thirty-three percent use it 75% or more; and six percent use the model as an aid in risk-assessment decision making about 98% of the time or more. Therefore, the question for the Ohio Department of Human Services, social work agencies, and implementation theorists in general is: "Is fifty percent implementation acceptable?" It appears to this researcher, that the amount of implementation (when defined as used in decision making) appears to be less than one would desire--only thirty-three percent of the staff use the model 75% or more in day to day decision making. It is also clear that an acceptable definition of a rate of implementation has not been established by the CPS field and further research in this area would be of great benefit.

**Question 3.** Did membership in a particular county Child Protective Services unit have an effect on the implementation of the risk-assessment model?

**Conclusion 11.** Membership in particular work group does have an effect on implementation: however, the exact reasons for the effect are unclear. The results of the third hierarchical regression analysis using the addition of the variable COUNTY clearly demonstrated that being the staff
member of a particular county had an effect on the regression model by adding 4.7% to amount of variance explained in the expressed implementation of the workers. However, the exact nature of the effect of county membership is less clear. The results did indicate that county membership derived part of its effect from perceived management-efficacy, motivational-regulatory influences, and retentional mastery-modeling influences. This may indicate that the three variables need to be strengthened with additional indicators of their function; or it may be that the effect of county membership is an indicator of some other environmental influence not captured in the present study design. In either case, the overall addition to the model contributed by this construct is supported by Bandura's emphasis on environmental influences and the self-reactive responses they create in the cognitive being (Grusec, 1992; Bandura & Cervone, 1986; Bandura 1978).

Bandura asserts that management and peer influence has an effect on the development of personal standards and level of behavior change in the workplace (1989, 1988; Bandura & Cervone, 1986). Bandura believes that personal standards are socially influenced by persons that have real significance, and explicit modeling at peer group and cultural levels. Consequently, innovations are more readily implemented (or not implemented) when they are modeled explicitly by persons
in close proximity and with significant personal or group influence.

Personal standards in the work environment are also formed by a self-judgmental process that begins with a series of personal referential comparisons to social group and agency norms. These referential comparisons are then combined with an evaluation of goal proximity and value of the activity with activities that are viewed as positively affecting personal safety, welfare, self-satisfaction, and self-efficacy usually precipitating more effort at implementation. Scheirer (1981) supports a similar idea in that membership in a particular work environment is seen to have an effect on implementation, but the effect is seen to be externally generated by supervisory expectations, operating routines, communication flow, work group norms, and the technical requirements of the innovation.

Scheirer postulates that clear and congruent expectations coupled with adequately conceptualized operating routines lead to higher implementation. Conflicting expectations and/or poorly conceptualized procedures lead to role and organizational conflict and less implementation. Communication then becomes the paramount issue and open communication patterns are considered fundamental to implementation. Unfortunately the data does not clarify the real nature of the effect, but the influence of peer group culture and management efficacy is strongly suspected.
**Question 4.** What is the current case outcome rate for the CPS units (counties) involved in the pilot study?

**Conclusion 12.** The case outcome rate is very positive and significant. The results of this study clearly describe the case outcome rate to be 97% (Chapter IV, Table 5). Nevertheless there are two possible limitations to this conclusion: the definition of case outcome is decidedly narrow, centering on case status and child placements; secondly the study period for decision reversals was short (12-18 months) for the average case. Both of these arguments are valid; on the other hand, the narrow definition of case outcome is supported by both McDonald et al. (1989) and Carter (1983; 1988). The study was also a randomly drawn sample in ten counties and the results show a significantly positive case outcome rate that outperforms the targeted CPS outcome rates outlined by Carter (1988). Consequently, the results are significant and strongly supported.

**Question 5.** Is case outcome related to degree of implementation, and if so, what is the relationship?

**Conclusion 13.** Case outcome is not related to the present rate of implementation. The results of the study do not help much with this question because case outcome did not make a significant addition to the regression model, and because the study design did not provide for direct comparisons of implementing workers with their individual case records. Consequently, even though the outcome rates were positive (from a practice perspective) the relationship
of case outcome to the implementation rate of this study is uncertain and not highly correlated \( (r = .1336, p < .018) \). The implementation rate is also less than fifty percent; therefore as a point of conjecture, it would appear that the two rates are not related at this time.

**Question 6.** And finally, what factors influence the implementation of a risk-assessment model in a child protective services agency?

**Conclusion 14.** There are seven significant factors examined in this study influence implementation of risk-assessment technology in Child Protective Services. It is evident from the results of the study that at least seven factors seem to have an influence on the implementation of the risk-assessment model in this study: i.e., the attentional-informative approaches used to present the new model, the retentional and mastery-modeling approaches used to teach the new model to the CPS worker, perceived management-efficacy, the motivational-regulatory approaches used by management of the CPS agency, the effect of being a member of a particular county unit, the self-motivational approaches used by the individual worker, and the individual worker's perception of self-efficacy when it came to learning and using the model. It is also interesting to note that the demographic characteristics of the implementors (defined at either the 50th or 75th percentiles) and non-implementors did not differ significantly (t-test of means at the 95% confidence level) by position, time in position, age,
education, sex, race, or number of risk-assessment instruments completed per month. There was a statistically significant difference (mean difference 2.26, \( t = -2.91 \), \( df = 142 \), \( \text{sig} \ t = 0.04 \), \( \otimes 95\% \text{ confidence level}, 2 \text{ tailed test} \)) in caseload but not much of practical significance (implementors = 16.09 average caseload, and non-implementors = 18.34 average caseload, a two case difference). The only finding of statistical significance that may be of practical significance concerned was the "time in field" with implementors averaging 6.06 years in the profession and non-implementors 4.76 years (mean difference 1.63, \( t \text{-value} = 4.50 \), \( df = 161 \), \( \text{sig of} \ t = .001 \) \( \otimes 95\% \text{ confidence level}, 2 \text{ tailed test} \)). However as there were significant differences between implementors and non-implementors on every one of the six social cognitive variables--it is a conclusion of this study that there is benefit to further explore the principles of social cognitive theory for further implications in the area of risk-assessment implementation.

Conclusion 15. The use of self-report is a viable and valuable tool in implementation studies. An underlying issue in the study concerned the relevance of using "self-report" as an additional tool in the measurement of implementation. The results of this study point to the utility of self-reported implementation as an additional measurement tool. The results demonstrate that workers were able to analyze the strengths and weaknesses of the risk-assessment model, the
implementation process, and their own use of the technology and report the results honestly.

Veracity of the responses is supported for three reasons. (1) The self-expressed implementation rate differed greatly among workers with almost half stating that they have not implemented the tool and 48 percent stating that they use the tool less than 50 percent of the time in their decision making process. (2) Answers on the instrument were often supported by scribbled notes in the survey margins. (3) In addition, even dissatisfied workers used the tool as indicated by the high effectuation rate, but did not exaggerate use of the tool in the survey. Consequently, this study supports the utility of self-report as an additional measurement tool in the area of risk-assessment implementation.

Conclusion 16. Output is not a strong indicator of implementation. The self-reporting activities of the CPS workers in this study also seem to indicate less personal acceptance of the risk-assessment tool than compliance with requirements of documentation. This is an important consideration for social work administrators and implementation theorists—that adds confirmatory evidence that even positive output (the completion of the matrix) should not be taken as an indicator of personal implementation (i.e., the black box theory in reverse).
Concluding Generalizations

This study has focused on the implementation of risk assessment in Child Protective Services and has concluded that Bandura's social cognitive theory and the use of self-report are useful tools in the area implementation research. Tentative generalizations of relevance are conjectured for the field of social work in three areas: practice, research, and social work education.

Practice. Evaluation, innovation and implementation are practice issues; therefore, the significance of implementation theory and the use of program theory lies in the practice realm; although the use of the term "theory" seems to be more related to the academic or research culture. Evaluation has long been part of every administrator's work; but, many program evaluations have been "black-box" studies and consequently may have been of little real value (Patton, 1978; Weiss, 1972). Likewise, implementation and innovation are part of the daily life of every social work program, at each level of interaction from stakeholder to client. Therefore, it seems that the emergence of a useable theory of implementation, perhaps translated in the practice world as a good implementation design accompanied by a usable set of recommended procedures is of great practical benefit (Finney & Moos, 1989; Williams, 1976).

The use of theory certainly is not foreign to professional social workers because most "diagnosis" and
"some" intervention is guided by theory, and the re-emergence of theory and practice in implementation and evaluation design should be of great benefit (Finney & Moos, 1989; Bickman, 1987). From another perspective, a major concern of social work administrators is the operation of socially responsible programs, effective service, good staff morale, competent staff behavior, and adequate client outcomes (Eldridge, 1991; Grasso & Epstein, 1987; Hudson, 1987; Patti, 1987); and the movement toward the use of an implementation theory will help to conceptualize and measure the effectiveness of innovative endeavors in these important areas, and will also help to account for the contextual and/or intervening factors that facilitate or impede success (Bickman, 1989; Basch et al., 1985; Fullen & Pomfret, 1977).

Finally, the examination of the effects of implementation efforts may help social workers at every organizational level to realize that they are part of a fast changing technological world with a responsibility to keep themselves oriented to the present and future. Unfortunately, there seems to be a natural human trend to resist movement toward new innovations especially new technology (Naisbitt, 1982; Zaltman et al., 1973; Weinbach, 1984). Hence, it may be of value for the human service organization to borrow an idea from American industry. Gardner, Ratchner and Sweeny (1986) believe that every organization needs to have a technology review committee that
makes itself aware of the basic technologies available to support present products and services and the next generation of consumer needs. The development of a futuristic attitude (even a cautious one) toward new developments in any area of social services technology would lessen resistance and increase the ability to adapt to innovation and consequently provide better client service. These thoughts seem especially relevant to area of risk-assessment in Child Protective Services.

Appreciation of technology and innovation, however, should not overshadow the essential element in effective social work practice - the human element. The descriptive part of this study has concluded that a theory of implementation can only be effectively utilized with a focus on the deliverer, regardless of which service the social work agency chooses to offer (Bandura, 1986; Patton, 1978; McLaughlin, 1976). A focus on the deliverer requires a shift in evaluation and outcome perspective from activities to workers on the part of managers and practitioners (Eldridge, 1990; Covey, 1991). Implementation then, depends on efforts at the organization level for alignment and empowerment (design, training, motivation, regulation, collective efficacy); the interpersonal level for trust and satisfaction; and the intrapersonal level for responsible, value centered, committed, and self-efficacious behavior. Thus a focus on the deliverer is the key to implementation
and should remain the foundation of social work practice.

Research. This study has also attempted to review and discover the discrepancies between current research on implementation and an emerging (although still inadequately conceptualized) "ideal." The implications for social work research are in at least two directions: exploratory social science endeavors and discrete evaluations (Reid, 1987). Present efforts are at best exploratory and consequently no single approach clearly offers the next appropriate step, but it seems that a continuation of present research on process, outcome and fidelity remain in order.

Relevance to Social Work Education. The discussion and conclusions of this study assert that the use of implementation theory seems of essential value and direct relevance to social work education. However, it has been eloquently stated in previous literature that social work practice and social work education do not always respond to the same demands (Blostein, 1988, 1985; Blostein & Ryan, 1988; Schon, 1983; Shatz & Frey, 1981). Consequently, this researcher, at least introduces the idea that implementation theory, theory based innovation design, and theory based program evaluation should be taught in every school of social work and to all social work students, not just students majoring in an administrative sequence. The study points to the importance of each social worker (direct service worker and administrator) understanding their role in the
implementation of any new technology, and this important conceptualization can be more easily taught in the limited number of university programs than in the myriad of practice settings. At the very least, the issues discussed here are relevant to future social work administrators and consequently should be of considerable value to social work educators.

Examined from another perspective, this study advocates the use of theory: social work is an applied profession and depends on theories, practice models, processes and technologies to accomplish its purposes, and the use of theory is extremely useful in understanding why endeavors succeed or fail (Bickman 1989; 1987; Thyer, 1990; Wodarski, 1983). In fact it could be conjectured that the following general predictions could result from the utilization of a theory based program and a theory based implementation:

Hypothesis 1: A theory based innovation will lead to a more fully implemented innovation.

Hypothesis 2: A theory directed implementation process will lead to a more fully implemented innovation.

Hypothesis 3: A theory based innovation combined with a theory directed implementation process will lead to the highest degree of implementation of an innovation.

Hypothesis 4: A non-theory based innovation combined with a non-theory directed implementation process will lead to the lowest degree of implementation of the innovation.
These four predictions are illustrated in the following theory based matrix:

<table>
<thead>
<tr>
<th>Use of Implementation Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of Theory</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>High Level of Implementation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of Innovation/ Program Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Theory</td>
</tr>
<tr>
<td>Moderate Implementation</td>
</tr>
</tbody>
</table>

Figure 2. Predicted Implementation of a Theory Based Program

Implementation theory should also be of concern to social worker educators because social work practitioners administer billions of state, federal, and local dollars, in important program endeavors; and it is unfortunate that many of these needed programs and policies fail (Patton, 1978; Lynn & Salasin, 1974). Consequently, without further examination of implementation theory by those in teaching positions little corrective knowledge is gained for future use. Therefore, it appears to be of considerable value to the profession to continue to build upon the research and conceptualization efforts of this study to accomplish present and future missions.
LIST OF REFERENCES


Lynn, L.E., & Salasin, S. (1974). Human services: should we, can we, make them available to everyone? *Evaluation [Special Issue]*, Spring, 4-5.


APPENDIX A

THE OHIO FAMILY RISK ASSESSMENT MATRIX
FAMILY RISK ASSESSMENT MATRIX

Directions: Rate the extent to which each of the elements contributes to risk. Assess all children from oldest (A) to youngest (G), identifying each by name in the space provided. Fill in a rating from 0 to 5 on the lines by each element. If there is not enough information available to determine the rating, write "UNK" (Unknown) in the box. If the element is not applicable, put an "NA" in the box. In the section assessing Characteristics of Adults in the Household, several lines are provided so that more than one adult can be rated. Identify each adult by name in the space provided and indicate his/her relationship to the child(ren).

<table>
<thead>
<tr>
<th>Identification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Agency Identification No ________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment Type: (Circle as many as apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Investigation Assessment</td>
</tr>
<tr>
<td>2. Six Month Review (or complete Risk Assessment Report)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name(s) of Child(ren) in Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>List children chronologically from oldest to youngest</td>
</tr>
<tr>
<td>Child A: __________________________</td>
</tr>
<tr>
<td>Child B: __________________________</td>
</tr>
<tr>
<td>Child C: __________________________</td>
</tr>
<tr>
<td>Child D: __________________________</td>
</tr>
</tbody>
</table>

ODIS 1500
September 21, 1994
## Risk Factors Analysis

### I. Type and Degree of Acts or Conditions to Which Children Have Been Exposed

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>No Risk</th>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Extent of Physical Injury</td>
<td>No injury, no medical treatment required</td>
<td>Superficial injury, no medical attention required</td>
<td>Significant injury, unlikely to require medical intervention</td>
<td>Major injury or substantial effect on development requiring medical treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Extent of Emotional Harm</td>
<td>No acts that result in psychological damage and/or social impairment</td>
<td>Acts that result in psychological impairment and/or social development</td>
<td>Acts that result in moderate psychological impairment and/or social development</td>
<td>Acts that result in severe psychological impairment and/or social development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Adequacy of Medical Care</td>
<td>Adequate routine and crisis care provided</td>
<td>Failure to provide routine medical, dental or prenatal care</td>
<td>Failure to provide medical care for injury or illness that usually should receive attention</td>
<td>Failure to provide treatment for a critical or life threatening condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rationale for rating: give specific facts.

---

No infusory, no medical treatment provided.

No act that results in psychological damage and/or social impairment.

No act that results in moderate psychological impairment and/or social development.

Adequate routine and crisis care provided.
<table>
<thead>
<tr>
<th>Risk Element</th>
<th>No Risk</th>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>d. Encouragement of Basic Needs</td>
<td>Food, clothing, shelter and hygiene needs are all adequately met</td>
<td>Failure to provide for basic needs places child at risk of minor distress/discomfort</td>
<td>Failure to meet basic needs places child at risk of cumulative harm</td>
<td>Failure to provide for basic needs places child at risk of imminent harm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Adequacy of Supervision</td>
<td>Supervision meets normal standards appropriate to child's age</td>
<td>Lack of supervision places child at risk of minor discomfort or distress</td>
<td>Lack of supervision places child at risk of cumulative harm</td>
<td>Lack of supervision places child at risk of imminent harm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Physical Hazards in the Home</td>
<td>No observable conditions in the home threaten the child's well-being</td>
<td>Conditions in the home place the child at risk of minor illness or superficial injury</td>
<td>Conditions in the home place the child at risk of harm that is significant but unlikely to require treatment</td>
<td>Hazards in the home environment place the child at risk of serious harm that would likely require treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Sexual Abuse</td>
<td>No sexual contact</td>
<td>Suggestive remarks and actions without clear sexual overtone or contact</td>
<td>Child was pressured, had sexual overtures made, or was engaged in non-genital fondling or grooming</td>
<td>Child was engaged in sexual contact including masturbation, penetration or oral sex</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Rationale for rating: give specific facts.

Rationale for rating: give specific facts.

Rationale for rating: give specific facts.

Rationale for rating: give specific facts.

Rationale for rating: give specific facts.

Rationale for rating: give specific facts.

Rationale for rating: give specific facts.
<table>
<thead>
<tr>
<th>Risk Element</th>
<th>No Risk 0</th>
<th>Low Risk 1</th>
<th>Moderate Risk 3</th>
<th>High Risk 5</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Acts</td>
<td>No occurrence</td>
<td>Infrequent occurrence</td>
<td>Intermittent occurrence</td>
<td>Repeated and ongoing pattern (more than two occurrences in a short time span)</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
</tbody>
</table>

**BASLINE RISK FOR EACH CHILD** — Both Factors I & II are used to determine the baseline risk for each child. The baseline risk is equivalent to the highest risk element rating in these two categories.

* Unknown = Insufficient information to assess.
### III. Child Characteristics

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Age</strong></td>
<td>18+</td>
<td>12-17</td>
<td>6-11</td>
<td>0-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II. Physical, Intellectual, Social Development</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>No physical, intellectual, social disability or developmental delay</td>
<td>Mild physical, intellectual, social disability or developmental delay</td>
<td>Moderate physical, intellectual, social disability or developmental delay</td>
<td>Profound physical, intellectual, social disability or developmental delay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>III. Behavioral Problems of Children</strong></td>
<td>Child displays no behavioral problems</td>
<td>Child is demanding or had minor distress or impairment in role functioning</td>
<td>Child has behavioral problems that impair social relationships (e.g. extremely aggressive, oppositional or hyperactive)</td>
<td>Child has extensive emotional or behavioral impairment</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rationale for rating give specific facts:**

---

1. \[\text{Footnote}\]
<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Mild/mod Functioning</th>
<th>Moderate/Mild Functioning</th>
<th>Severe</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>m. Self Protection</td>
<td>Actively resists abuse</td>
<td>Shows some resistance to abuse</td>
<td>Displays little resistance to abuse</td>
<td>Unwilling or unable to defend self</td>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
<tr>
<td>n. Child's Role in Family</td>
<td>Roles and responsibilities in family are assigned appropriately, child uses appropriate channels of communication</td>
<td>Child is given inappropriate role with no immediately apparent detrimental effects</td>
<td>Child's role in family has detrimental effects on normal development</td>
<td>Child's role in family severely limits or prevents normal development</td>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
</tr>
</tbody>
</table>

Rationale for rating: give specific facts:

___________________________________________________________________________
___________________________________________________________________________
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___________________________________________________________________________
___________________________________________________________________________

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
Name(s) of ALL ADULTS in the immediate family system and Relationship to Children (Eg. grandmother, perpetrator, boyfriend of mother)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(relationship)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(relationship)</td>
<td></td>
</tr>
</tbody>
</table>

IV. Characteristics of Adults in the Household

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
<th>Risk</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>I</td>
<td>J</td>
<td>K</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Elements a through z are historical perspectives

<table>
<thead>
<tr>
<th>a. Victimization of Other Children</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>No history of victimization toward other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of minor victimization toward other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of moderate victimization toward other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of serious victimization toward other children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rationales for rating give specific facts

<table>
<thead>
<tr>
<th>b. History of Assaultive Behavior Toward Other Adults</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>No history of assaultive behavior toward spouse/partner or other adult outside home</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolated incident of assaultive behavior not resulting in injury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporadic incidents of assaultive behavior which result or could result in minor injury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeated incidents of assaultive behavior which result or could result in major injury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rationales for rating give specific facts
<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
<th>H</th>
<th>Risk</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. History of Abuse or Neglect as a Child</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>H</td>
<td>I</td>
<td>J</td>
</tr>
<tr>
<td>b. Substance Abuse</td>
<td>No past or present substance abuse</td>
<td>History of substance abuse but no current problem</td>
<td>Reduced effectiveness due to substance abuse or addiction</td>
<td>Substantial incapacity due to substance abuse or addiction</td>
<td>H</td>
<td>I</td>
<td>J</td>
</tr>
<tr>
<td>c. Intellectual, Physical or Psychological Impairment</td>
<td>No physical, intellectual or psychological impairment that interferes with the capacity to provide care</td>
<td>A physical, intellectual or psychological impairment that mildly interferes with the capacity to provide care</td>
<td>A physical, intellectual or psychological impairment that mildly interferes with the capacity to provide care</td>
<td>A physical, intellectual or psychological impairment that interferes severely with the capacity to provide care</td>
<td>H</td>
<td>I</td>
<td>J</td>
</tr>
<tr>
<td>d. Parenting Skills and Knowledge</td>
<td>Adult consistently demonstrates parenting skills and knowledge</td>
<td>Some unrealistic expectations of child and/or gaps in parenting skills</td>
<td>Significant gaps in knowledge or skills that interfere with effective parenting</td>
<td>Gross deficits in parenting knowledge and skills or inappropriate demands and expectations of child</td>
<td>H</td>
<td>I</td>
<td>J</td>
</tr>
</tbody>
</table>

Rationale for rating give specific facts.

Rationale for rating give specific facts.

Rationale for rating give specific facts.
<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
<th>Risk</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coping with Problems in Family Functioning</td>
<td>Open acknowledgment of problem and its severity and willingness to accept responsibility</td>
<td>Recognition of problem's existence and willingness to take some responsibility</td>
<td>Superficial understanding of problem but failure to accept responsibility for their own behavior</td>
<td>No understanding/complete denial of problem and refusal to accept any responsibility</td>
<td>H</td>
<td>I</td>
</tr>
</tbody>
</table>

Rationale for rating give specific facts

2. Protection of Child

| | Adult willing and able to protect child | Adult willing but occasionally unable to protect child | Adult vacillates or is inconsistent about protecting child | Adult able but unwilling to protect child |
|---|---|---|---|

Rationale for rating give specific facts

3. Adult's Response to Stress

| | Adult's response to stress is minimally affects ability to provide child care | Adult's response to stress causes significant disruption to provide care | Adult's response to stress severely affects ability to provide care |
|---|---|---|

Rationale for rating give specific facts
### V. Adult/Child Relationship

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Waistness</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Response to Child's Behavior</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Adult does not overreact to child's behavior</td>
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<tr>
<td>Adult occasionally responds inappropriately to child's behavior</td>
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<tr>
<td>Adult responds to child's behavior with frustration or hopelessness</td>
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</tbody>
</table>

| 7. Attachment/ Bonding- Rapport      |          |                      |                     |           |   |   |   |   |
| Secure adult/child attachment     |          |                      |                     |           |   |   |   |   |
| Mild discrepancies or Inconsistencies are evident in the adult/child relationship |          |                      |                     |           |   |   |   |   |
| Child evidences an anxious or disturbed attachment to the adult |          |                      |                     |           |   |   |   |   |
| Complete lack of bonding between child and adult |          |                      |                     |           |   |   |   |   |

Rationale for rating give specific facts.

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<table>
<thead>
<tr>
<th>6. Response to Child's Behavior</th>
<th>0</th>
<th>1</th>
<th>3</th>
<th>5</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
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</tbody>
</table>

Rationale for rating give specific facts.
### VI. Social and Economic Factors

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Social Connectedness of Adults</td>
<td>Frequent supportive contact with friends or relatives and appropriate use of community/resources</td>
<td>Occasional contact with supportive persons, some use of available community resources</td>
<td>Sporadic supportive contact, under use of resources</td>
<td>Adult geographically or emotionally isolated and community resources are not available or are not used</td>
</tr>
</tbody>
</table>

**Rationale for rating: give specific facts**

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Economic Resources of Family</td>
<td>Family has more than enough resources to meet basic needs</td>
<td>Family’s resources usually adequate to meet basic needs</td>
<td>Family’s resources inadequate to meet basic needs</td>
<td>Family’s resources grossly inadequate to meet basic needs</td>
</tr>
</tbody>
</table>

**Rationale for rating: give specific facts**

### VII. ALLEGED PERPETRATOR ACCESS AND RESPONSIBILITY FOR CARE OF CHILD. This factor is completed only on the identified alleged perpetrator or when the perpetrator is unknown.

<table>
<thead>
<tr>
<th>Risk Element</th>
<th>Strength</th>
<th>Moderate Functioning</th>
<th>Minimal Functioning</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Alleged Perpetrator Access to Child (Abuse): Responsibility for Care of Child</td>
<td>Alleged perpetrator has no access or child care responsibilities</td>
<td>Alleged perpetrator has supervised access or shared responsibility for care of child</td>
<td>Alleged perpetrator has limited unsupervised access or primary responsibility for care of child</td>
<td>Alleged perpetrator has immediate unlimited access or full responsibility for care of child</td>
</tr>
</tbody>
</table>

**Rationale for rating: give specific facts**
Section VIII. STRUCTURED DECISION MAKING

Baseline rating for each child

A  B  C  D  E  F  G

To predict what is likely to happen to the child without intervention, identify type, degree and frequency of acts or conditions to which child has been exposed for which baseline was established. Note: The ability to predict CA/N does not imply the ability to prevent CA/N.

Section IX. STRENGTHS AND WEAKNESSES:

Identify those cluster elements (i.e. strengths or weaknesses) which pertain only to the underlying causes of the baseline.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Section X. PROFESSIONAL JUDGMENT/OVERALL LEVEL OF RISK FOR THE FAMILY: Weigh the cluster elements against the baseline rating in order to make a professional judgment regarding the overall level of risk. (E.g. If there are many strengths, the overall rating should be equal to or less than the baseline).

☐ 0 No Risk  ☐ 1 Low Risk  ☐ 2  ☐ 3 Moderate Risk  ☐ 4  ☐ 5 High Risk

Describe how you arrived at your professional judgment/overall level of risk:
Section XI. REPLACEMENT PREVENTIVE EFFORTS — These sections must be completed on all cases.

1. Describe those services previously utilized by the family.

2. Were those services beneficial? Why or why not?

COMPLETE 3 and 4 ONLY WHEN THERE IS CONTINUED AGENCY INVOLVEMENT

3. What community or supportive services will be stabilized to further protect the child and strengthen family functioning?

4. Safety Plan: Considering the baseline risk, the age of the child (if), the ability of the child to self protect (if), family member's ability to protect child (v) and perpetrator access (vb); state the plan for the child(ren).

Case Determination: (Please check all that apply)

☐ Continued agency involvement

☐ Referred for community services

☐ Case closed (Go to Section XIII)
Section XII. CIRCUMSTANCES REGARDING REMOVING CHILD FROM HOME

Check appropriate item, as applicable, to any child listed on this Risk Assessment Matrix if child was removed.

a. ( ) COURT ORDERED REMOVAL: PCRA was not involved, prior to removal, in a report or an investigation, or the provision of supportive services, and therefore had no option to offer in-home services. Which Child(ren)?

b. ( ) PARENT/GUARDIAN IDENTITY AND/OR WHEREABOUTS ARE UNKNOWN: Thesetwas, parent/guardian cannot be located or offered services. Which Child(ren)?
   1. Explain what efforts have been made to locate parent/guardian.

c. ( ) PCRA RECEIVED CUSTODY: (Eg. ATC, Ex parte, Emergency Custody Order, TCC, PC)
   1. Explain why the risk of harm to the child(ren) was greater than the emotional trauma and other harm potentially caused by removal of the child(ren) from the home. Which Child(ren)?
   2. State the reasonable efforts which have been made to make it possible for child(ren) to return home. Which Child(ren)?

Section XIII:

Case Worker Signature ___________________________ Date ___________________________

Supervisor Comments:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Supervisor Signature ___________________________ Date ___________________________
APPENDIX B

COMPARISON OF SOCIAL COGNITIVE THEORY
AND OTHER IMPLEMENTATION THEORIES
# COMPARISON OF THE EXISTING MODELS OF IMPLEMENTATION EVALUATION WITH BANDURA'S SOCIAL COGNITIVE THEORY

**FULLAN AND POMFRET MODEL OF IMPLEMENTATION (1976)**

<table>
<thead>
<tr>
<th>Characteristics of the Innovation</th>
<th>CORRESPONDING SECTION OF BANDURA'S THEORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicitness (what, who, when, how)</td>
<td>I</td>
</tr>
<tr>
<td>Complexity</td>
<td>II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategies</th>
<th>I, II, III</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-service training</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Resource support (time and materials)</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Feedback mechanisms</td>
<td>II, III, IV</td>
</tr>
<tr>
<td>Participation</td>
<td>II, III</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristics of the Adopting Unit</th>
<th>I, III, IV, V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption process</td>
<td>III</td>
</tr>
<tr>
<td>Organizational climate</td>
<td>I, III</td>
</tr>
<tr>
<td>Environmental support</td>
<td>I, III, IV, V</td>
</tr>
<tr>
<td>Demographic factors</td>
<td>III, IV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristics of the Macro Sociopolitical Units</th>
<th>I, II, III, V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design questions and methodology</td>
<td>I, II, III, V</td>
</tr>
<tr>
<td>Incentive system</td>
<td>III</td>
</tr>
<tr>
<td>Evaluation</td>
<td>III</td>
</tr>
<tr>
<td>Political complexity</td>
<td>III</td>
</tr>
</tbody>
</table>

**HORNBY AND WELLS MODEL OF IMPLEMENTATION**

<table>
<thead>
<tr>
<th>Assessment Criteria and Purposes</th>
<th>I, III, IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense the tool makes to workers</td>
<td>I, II, IV, V</td>
</tr>
<tr>
<td>Decisions the system is designed to support</td>
<td>I, II, IV, V</td>
</tr>
<tr>
<td>Effectiveness of the system in assessing risk</td>
<td>III, IV, V</td>
</tr>
<tr>
<td>Ease of use</td>
<td>IV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management Support for the System</th>
<th>I, II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training provided</td>
<td>I, II</td>
</tr>
<tr>
<td>Time and money spent on development</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Opportunity for field input</td>
<td>I - IV</td>
</tr>
<tr>
<td>Manager Attitude toward need</td>
<td>I - V</td>
</tr>
<tr>
<td>Clarification of Policy</td>
<td>III (Plus I, II as training issues)</td>
</tr>
</tbody>
</table>
3. Environmental Factors
   Motivation for the adopting the system
   Liability for the worker or agency
   Reaction of external groups
   Use of the information in court

4. Effects Produced
   Overall effect on worker's time, efficiency and consistency of decision making
   Expectations of workers
   Changes in practice
   Changes in laws, regulations and policy

This type of outcome not addressed by the theory except as generativity

HALL AND LOUCKS DEVELOPMENTAL MODEL- LEVELS OF USE OF THE INNOVATION (1977)  CORRESPONDING SECTION OF BANDURA'S THEORY

0 NONUSE: State in which the user has little or no knowledge of the innovation, no involvement with the innovation and is doing nothing toward becoming involved.

Decision Point A: Takes action to learn more detailed information about the innovation.

1 ORIENTATION: State in which the user has recently acquired or is acquiring information about the innovation and/or has recently explored or is exploring it value orientation and its demands upon user and user system.

Decision Point B: Makes a decision to use the innovation.

2 PREPARATION: State in which the user is preparing for first use of the Innovation.

Decision Point C: Changes and use are dominated by user needs.

3 MECHANICAL USE: State in which the user focuses most effort on the short term, day to day use of the Innovation with little time for reflection. Changes in use are made more to meet user needs than client needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in disjointed and superficial use.

Decision Point D: A routine pattern of use is established.
4 ROUTINE: Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.

Decision Point E: Changes in use of the innovation based on formal or informal evaluation in order to increase client outcomes.

5 REFINEMENT: State in which the user varies the use of the innovation to increase the impact on clients within the immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.

Decision Point F: Initiates changes in use of the innovation based on input of and in coordination with what colleagues are doing.

6 INTEGRATION: State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

Decision Point G: Begins exploring alternatives to or major modifications of the innovation presently in use.

7 RENEWAL: State in which the user reevaluates the quality of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.
<table>
<thead>
<tr>
<th>THE DOUCYK THEORY</th>
<th>CORRESPONDING SECTION OF BANDURA'S THEORY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I Quantitative Pre-Post Outcome Comparisons</strong></td>
<td></td>
</tr>
<tr>
<td>Disposition at intake</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Actual response time</td>
<td>I, III</td>
</tr>
<tr>
<td>Type of maltreatment substantiated</td>
<td>I</td>
</tr>
<tr>
<td>Perpetrator</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Type of family data collected</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Open past substantiation</td>
<td>I, II, III</td>
</tr>
<tr>
<td>Types of services</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Court petitions</td>
<td>I</td>
</tr>
<tr>
<td>Foster placements</td>
<td>I</td>
</tr>
<tr>
<td>Recidivism</td>
<td>I</td>
</tr>
<tr>
<td>Duration of placement</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Duration of case from opening to closing</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Worker Activity, Phone contacts, Home visits,</td>
<td></td>
</tr>
<tr>
<td>Office visits, Off-site interview, Written requests</td>
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</tr>
<tr>
<td><strong>II Quantitative Internal Analysis/Processes</strong></td>
<td></td>
</tr>
<tr>
<td>Forms completed</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Missing data</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Relationship of data</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Within forms, Between forms,</td>
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<tr>
<td>To major decisions</td>
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<tr>
<td>Predictive Validity</td>
<td></td>
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</tbody>
</table>
### THE DOUECK THEORY (Continued)

#### III Qualitative Pre-Post Outcome Comparisons
- Evaluator agreement with
  - Indication
  - Response time
  - Level of danger
  - Placement
  - Return Home
  - Case Closure
  - Level of effort
  - Level of satisfaction

#### IV Qualitative Internal Analysis/Processes
- Level of satisfaction
- Level of effort
- Implementation barriers
- Effect on relationship
- Overall abilities
  - Competence
  - Professionalism
  - Decision making

### CORRESPONDING SECTION OF BANDURA'S THEORY

<table>
<thead>
<tr>
<th>Level of effort</th>
<th>I, II, III, IV, V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of danger</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Placement</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Return Home</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Case Closure</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Level of effort</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Level of satisfaction</td>
<td>I, II, III, IV, V</td>
</tr>
<tr>
<td>Overall abilities</td>
<td>I, II, III, IV, V</td>
</tr>
<tr>
<td>Competence</td>
<td>I, II, III, IV</td>
</tr>
<tr>
<td>Professionalism</td>
<td>I, II, III, IV</td>
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<tr>
<td>Decision making</td>
<td>I, II, III, IV</td>
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</table>

**Modal Strengths and Weaknesses**

| I, II, V |
### WILLIAMS’ THEORY (1976)

**A. GENERALITIES:** Implementation research should involve:

<table>
<thead>
<tr>
<th>Process</th>
<th>Outputs</th>
<th>Outcomes changes in the client or staff members</th>
<th>Should be an aid to decision makers</th>
</tr>
</thead>
<tbody>
<tr>
<td>I, II, III</td>
<td>III, IV, V</td>
<td>IV, V</td>
<td>I, III, V</td>
</tr>
</tbody>
</table>

**B. SPECIFIC ELEMENTS FOR IMPLEMENTATION RESEARCH.**

- The program’s theory - (any design may be a theory)
  - I, II, III
- What are the objectives of the Innovation
  - I, II, III, IV
- There is a need for detailed direction (in all forms)
  - I, II, III, IV
- What are the mechanics of determining the treatment Innovation
  - I, II, III, IV
- What are the program/policy/innovation’s goals
  - I
- What are the incentives to Implement
  - III, IV
- What organizational change resulted
  - I, III
- Are relevant materials available
  - I, II, III
- What is the supervision like
  - I, III
- What is the training process
  - I, II, III
- What are the elements of flexibility
  - I, II, III
- What are the political & bureaucratic factors
  - I, III
- What is the organizational climate
  - I, II, III, IV
- Are the lines of communication sufficiently developed
  - I, II, III
- Are the needed staff skills present
  - I, II
- Was pilot model tested
  - I
- Was an Implementation team put in place
  - I, II, III
- Have staff organizational behaviors and sentiments changed
  - II, III, IV, V
- Are detailed records and reporting systems in place to measure the implementation and program outcome.
  - III, IV
- Has a system of monitoring be put in place
  - II, III, IV
- What are the Interpersonal motivation factors
  - I, II, III, IV
- What is the management control process
  - III
- What are the personal characteristics of the manager,
  - I, II, III, V
  - his knowledge and ability to Influence others
- What does the manager do to motivate others
  - I, II, III
PATTON'S THEORY (1978)

A. OVERVIEW

1. does the program exist
2. what is the definition and purpose of the program
3. what is the end result supposed to be like
4. what is the power structure of the program
5. what are the program's routines
6. is there a theory of implementation being used by the management
7. what is implementation plan
8. what is the degree of program implementation
   - with the object being performance not conformance
9. Implementation evaluation should concern more with the "deliverer" of the innovation than the "delivery system" (the program) and this can be measured by changes in participant attitude, skill, and behavior; and by determining what goals or part of the innovation/technology was changed to accommodate staff needs or desires.

B. THE EFFORT APPROACH (consists of making an inventory of program operations in relationship to the program design):

Time
Activities
Staff commitment
Resource allocations - funds, space, equipment.
Availability of materials
Ancillary resources - media and promotion and personnel recruitment techniques.

C. THE PROCESS APPROACH (focuses on why things are happening the way they are. What are the internal dynamics and actual operations? How is the outcome produced versus what outcome is achieved):

Formal Activities
Informal Patterns
Consequences observed
Perceptions of staff

CORRESPONDING SECTION OF BANDURA'S THEORY
D. THE TREATMENT SPECIFICATION APPROACH (examines what is supposed to be an effect—what is the impact of independent variables upon the dependent variable(s); and what is the agency's social ecological environment).

- How are goals attained
- What are the program components
- Who are the people
- What procedures are used
- What are the internal variations
- How is treatment operationalized
- What is the degree of implementation
- What is the social climate
- What is the management style
- What is the communication style

<table>
<thead>
<tr>
<th>PATTON'S THEORY</th>
<th>CORRESPONDING SECTION OF BANDURA'S THEORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>III, IV</td>
<td>I, II</td>
</tr>
<tr>
<td>I, III, IV</td>
<td>I, IV</td>
</tr>
<tr>
<td>I, II, III, IV</td>
<td>I, II</td>
</tr>
<tr>
<td>IV</td>
<td>I, IV</td>
</tr>
<tr>
<td>II, III, IV, V</td>
<td>I, III, IV, V</td>
</tr>
<tr>
<td>II</td>
<td>I, III, IV</td>
</tr>
<tr>
<td>I, II, III</td>
<td>I, II, III</td>
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## ADDITIONAL THEORIES OF IMPLEMENTATION

<table>
<thead>
<tr>
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<th>Authors</th>
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<th>Strategies</th>
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<th>Emphasis on the &quot;Delieverer&quot;</th>
<th>Authors</th>
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<td>III, V</td>
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MA = MUTUAL ADAPTATION: McLaughlin (1976)
H = HEILMAN; Heilman (1989)
KEY CONCEPTS IN SOCIAL COGNITIVE THEORY*

I. ATTENTIONAL / INFORMATIVE INFLUENCES: The form in which the model was presented to learner.
   Design of the new innovation/model was perceived to have functional value
   Design made sense to learner/staff member
   Design provided challenging activity
   Symbolic conditioning was provided
   Expectation of positive consequence for using model was provided
   Emotion arousing presentations provided
   Affective Valance (personal attraction) provided
   Structural arrangements considered and attended to
     group composition
     group culture
     group size
     social composition
   Verbal cues provided
   Visual cues provided

II. RETENTIONAL / MASTERY MODELING / (TEACHING LEARNING INFLUENCES): The form in which the model was attempted to be taught and retained.
   Teaching Methodology-provision of the following presentations:
     Model broken into small teaching steps
     Visual presentations provided
     Verbal presentations provided
     Symbolic coding provided - film, television, pictures, computer technology, etc.
     Associational presentations provided
     Positive exemplary modeling provided
     Contrastng (poor vs. good) modeling provided
     Team planning & teaching provided
   Retentional processes employed:
     Verbal presentation
     Mental presentation /imagined model
     Cognitive rehearsal
   Motor respondent processes employed:
   Provision of simulated conditioning provided:
     small step behavior enactment
     behavioral rehearsal
     feedback (verbal, visual, auditory)
     individual tutoring
     simulation games used
     technology provided (written, verbal, visual)
     Sensory feedback provided (biological and cognitive)
   Additional retentional processes used:
     Stress reduction methods taught
     Social persuasion used
     Reflective, abstractive, generative exercises provided
III. MOTIVATIONAL/REGULATORY INFLUENCES: The form in which the agency related past experiences and rewards to be anticipated in order to motivate, regulate and maintain employee behavior. (This process is also related to the perceived efficacy of the decision makers.)

External Cognitive Motivation Provided:

- Anticipated consequences helped create positive performance
- Reward system provided social incentives
- Reward system provided monetary incentives
- Reward system provided status/rank incentives
- Reward system provided power incentives
- There was a mutual exchange of ideas on model and rewards
- Rewards tied to a level/status of competency
- Rewards seemed to be facilitative/not coercive
- Reward/punishment system made sense
- Rewards were given for positive performance
- Punished was given for negative behavior and unwanted deviant behavior
- Rewards to others were easily apparent
- Reason for reward was easily apparent
- Context of rewards and punishments was easily apparent

Goals and Challenges Provided:

- The new innovation presented challenging activity
- Responsibility was delegated (group and individual)
- Goal setting exercises were used to help create positive performance
- Group and personal goals were set
- Goals and standards were clear and unambiguous
- Goals were challenging
- Proximal sub goals were set
- Goals had valence
- Goal feedback was provided
- Present self efficacy and skill level of staff was taken into account
  (perseverance level of staff is affected by self-efficacy)
- Perceived agency efficacy and skill level of leaders was taken into account
- Value formation exercises were used to help create positive performance

Problem Solving:

- A problem solving model was adopted and taught
- Problem solving was enhanced by the new skill
- Problem solving was used in acquiring/adapting the new skill
- Collective Group problem solving was used

Ancillary Services:

- Programs for stress reduction were provided
- Programs for social support were provided
IV. SELF MOTIVATIONAL INFLUENCES: The form in which an individual relates past experiences, and rewards to be anticipated - in order to self motivate, regulate and maintain behavior.

Agency goals were accepted
Group goals were committed to
Personal goals were committed to

Personal consequences were created for self-reward or punishment
Personal symbolic conditioning, emotional arousal, and verbal and visual cues were provided
Group goal attainment was achieved and this was perceived personally

Agency rewards were received personally
There was a belief of worth generated by the new innovation or activity
Self efficacy was taken into account
A sustained focused effort took place
Self observation and monitoring took place
Personal goals were set

Personal goals were challenging
Energy was expended to solve task

Somatic arousal was achieved and appeared to be within normal limits
Personal problem solving was learned and applied
Self evaluation took place

Personal goals were met
Self satisfaction was anticipated
New method when learned was satisfying
Learning was satisfying
New personal skills were generated

Social group accepted standard (institutional support offered)
Model positively affected individual safety, welfare, self respect
Model seemed to provide more individual locus of control
Model gave new skills or higher level of achievement for present skills
Model or training had a generative effect

Mergerization took place (learning became automated)
Feelings of group efficacy had some generalization to personal situation
Positive social persuasion was attempted by others
Negative social persuasion was attempted by others but rejected

Personal social persuasion was tried – to influence others
Collective Group problem solving was participated in personally
Programs for stress reduction and/or social support were participated in personally

V. SELF-EFFICACY/COLLECTIVE EFFICACY INFLUENCES: The self-perception of personal capability to produce a desired effect and the subsequent behavior of the person relative to that judgement.

Self efficacy was enhanced on an individual basis
Agency efficacy was perceived as enhanced
Efficacy of the agency leaders was perceived as enhanced

New learning generated beyond original model for collective (generative/adaptability)

APPENDIX C

LIST OF EXPERT PANEL MEMBERS
STATE OF OHIO

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