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Abstract

Title of Dissertation: Change over time in implementation fidelity of a child welfare practice model

Karen Rice, Doctor of Philosophy, 2011

Dissertation Directed by: Diane DePanfilis, Ph.D., Professor, Associate Dean for Research, School of Social Work, University of Maryland, Baltimore

In the field of child welfare, previous research has largely focused on assessing the efficacy and effectiveness of interventions rather than on the implementation of the intervention. The primary aim of this dissertation was to broaden the understanding of the change over time in implementation fidelity of a safety management practice model in a state public child welfare agency by exploring specific practitioner and organizational characteristics that may influence implementation fidelity.

The dissertation is a secondary analysis of a longitudinal study. Data collected were examined at an organizational and case level. Single system research design (SSRD) was employed to explore the change in implementation fidelity over time within each district. To identify whether differences in implementation fidelity scores exist across districts, case level ANOVA and MANOVA analyses were conducted.

Throughout the 11 month time period, none of the districts averaged a high degree of implementation fidelity (80% and above). One district demonstrated statistically significant higher implementation fidelity of the practice model than the other two districts. Additionally, the districts differed statistically in degree of implementation fidelity on two components of the practice model, Temporary Protection and Safety Planning. This may suggest ongoing coaching and training of staff members in order to

aid in the change in practitioners' perceptions of the value and benefit of the innovation. For this to occur, federal, state, and private foundations must not only require implementation studies within organizations receiving financial support, but must also fund the components associated with implementation. These and other social work implications are explored.

Change Over Time in Implementation Fidelity of a Child Welfare Practice Model

Karen Rice

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of the University of Maryland Baltimore in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

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CHAPTER ONE: INTRODUCTION, SPECIFIC AIMS, AND RELEVANCE FOR SOCIAL WORK

Implementation research is the study of factors that ensure the uptake of scientific knowledge into routine practice (Bhattacharyya, Reeves, & Zwarenstein, 2009). The goal of implementation research is to close the knowledge to practice gap (Bhattacharyya et al., 2009), which is often caused by the reliance on diffusion of information (e.g., manuals, training) to distribute the knowledge (Armstrong, Waters, Crockett, & Keleher, 2007; Lavis, Robertson, Woodside, McLeod, & Abelson, 2003). In contrast, implementation research focuses on the active process of the dissemination of innovations (Kerner & Hall, 2009) and the extent to which the practitioner adheres to the activities developed by the program (Dane & Schneider, 1998; Durlak, 1998; Dusenbury, Brannigan, Falco, & Hansen, 2003; Institute of Medicine, 2001) as training alone will not ensure effective implementation (Fixsen, Blase, Naoom, & Wallace, 2009).

Previous research, particularly related to the field of child welfare, has largely focused on assessing the efficacy and effectiveness of interventions in order to ensure accountability on behalf of the children and families receiving services (Cash & Berry, 2003; Fraser, Pecora, & Haapala, 1991; Schuerman, Rzepnicki, & Littell, 1994), rather than focusing on the implementation of the intervention (Cash & Berry, 2003; Stern, Alaggia, Watson, & Morton, 2008). Too often, an assumption is made that formal education (i.e., in-service training, certificate program, higher education) is a sufficient mode of ensuring the transfer of information into practice (Armstrong et al., 2007; Lavis et al., 2003; Lilienfeld, 2002). This assumption is contrary to diffusion of innovations

theory, which considers the uptake of innovations as a deliberate act influenced in part by the practitioners' attitudes, beliefs, and values and their congruence with those of the innovation being implemented (Rogers, 2003). Therefore, implementation research challenges this assumption by elucidating the factors that influence practitioners' use of innovations in practice settings (Proctor & Rosen, 2008).

Assuming innovations with proven effectiveness from university-based controlled studies will reap similar benefits in the community is fraught with concern as barriers may prevent achieving the same outcomes (Kazdin & Weisz, 1998; Schoenwald & Hoagwood, 2001). In fact, this gap between innovations previously shown to be effective and practice that is delivered reflects a paucity of evidence about implementation (Proctor et al., 2009). This implementation gap has such a profound effect on individuals in need of services that the President's New Freedom Commission on Mental Health (2003) has made the implementation of effective interventions in diverse settings and populations a priority so that the suffering of individuals with mental illness can be decreased and the benefits from the billions of tax dollars spent on research can be reaped.

Greenhalgh, Robert, MacFarlane, Bate, and Kyriakidou's (2004) seminal systematic review in health care identified the lack of knowledge about implementation as "the most serious gap in the literature" (p. 620). In an attempt to ensure understanding regarding the effective implementation of interventions, Fixsen, Naoom, Blase, Friedman, and Wallace (2005) conducted an extensive review of the literature to identify key components and factors that must be considered when implementing any evidence-based programs if the goal is to improve the lives of those receiving the service. The *Implementation Science Journal* was launched in 2006 as another means to bridge the

gap between what is known and what is practiced (Proctor et al., 2009). The goal of implementation reaches beyond the mere use of the innovation, to effective use, which is accomplished through an interactive process integrating core implementation components influencing practitioners' behavior and the organizational culture (Fixsen et al., 2009; Hagermoser-Sanetti & Kratochwill, 2009).

The “buy-in” from practitioners is key to successful innovation adherence (Stern et al., 2008), which can be sought through systematic training and consultation (Bond, Drake, McHugo, Rapp, & Whitley, 2009). The more likely the practitioner views the innovation as adaptable and consistent with his/her values and beliefs, the more likely the innovation will be implemented (Simpson, 2009). Even when innovations are not immediately accepted by practitioners, the more that is done through monitoring the implementation process, offering feedback, and providing ongoing training as needed, the greater the likelihood of practitioners implementing the innovation with fidelity (Carroll et al., 2007; McCollum, Yates, Lauman, & Hsieh, 2007).

Ensuring implementation fidelity of innovations will inform social work practice and add to the core knowledge base (Tucker & Blythe, 2008) as understanding implementation fidelity is essential for a field of practice to advance (Dane & Schneider, 1998). Key components of implementation fidelity include treatment adherence and competence (Tucker & Blythe, 2008). According to Tucker and Blythe (2008), adherence is the degree to which practitioners use an innovation's prescribed techniques and approaches, whereas competence is the skill level at which the practitioner delivers the innovation. Measuring fidelity guides social work practice to ensure successful implementation of the innovation's core principles, which in turn ensures similar

outcomes as in previous studies (Bond et al., 2009). Therefore, further research is warranted to identify specific practitioner and organizational characteristics that influence implementation fidelity (Dusenbury et al., 2003), specifically the degree of implementation fidelity, as variables that influence implementation fidelity have received little attention in research (Hagermoser-Sanetti & Kratochwill, 2009).

A. Aims and Research Questions

The aim of this dissertation is to broaden understanding of the change over time in implementation fidelity of a safety management practice model in a state public child welfare agency by exploring specific practitioner and organizational characteristics that may influence implementation fidelity. Specific research questions are:

1. What are the organizational characteristics of each district as reported by the staff?
 - a. Is there a difference between districts in practitioners' perceived need for the safety management practice model?
 - b. Is there a difference between districts in practitioners' perceived capability to implement the safety management practice model?
 - c. Is there a difference between districts in practitioners' perception of management support of the safety management practice model?
 - d. Is there a difference between districts in practitioners' perception of personal benefits from the safety management practice model?
 - e. Is there a difference between districts in practitioners' perception of the organization's ability to implement the safety management practice model?

2. What is the degree of implementation fidelity over an 11 month time period within each district?
 - a. Is there a change in the degree of implementation fidelity throughout this time within each district?
 - b. At what point throughout this time are the districts most likely to achieve high degree of implementation fidelity?
 - c. Is there a difference between districts in the degree of implementation fidelity?
3. Is there a difference between districts in implementation fidelity of the SAMS practice model?
 - a. In which areas of Phase One of the Safety Assessment Management System (SAMS) practice model do the districts differ?

B. Statement of the Problem

A number of factors have been identified as influencing implementation fidelity. These factors can be categorized into three categories: characteristics of the innovation, characteristics of the practitioner, and characteristics of the organization. Each of these categories will be explored below.

Characteristics of the Innovation. Innovations viewed by practitioners as more complex (Carroll et al., 2007; Rogers, 2003) and difficult to adapt to the varying needs of the individuals with whom they work are less likely to be adopted (Rogers, 2003; Simpson, 2009). If complex innovations are adopted, they are less likely to be sustained over a period of time (Yeaton & Sechrest, 1981). Poorly implemented innovations have been attributed to the lack of an adequate implementation plan (Rosenheck, Neale, Leaf,

Milstein, & Frisman, 1995). Some strategies have been shown beneficial in enhancing implementation fidelity. These strategies include the use of detailed program manuals, supervision, training (Webster-Stratton, 2004), and checklists to ascertain immediate feedback from practitioners implementing the innovation in order to address concerns raised (Eames et al., 2009). When implementing evidence-based practices (EBPs) in community settings, close collaboration between the research team and key agency stakeholders is essential for effective implementation (Fixsen et al., 2005). These collaborative relationships may foster necessary agency staff buy-in to adopt the innovation and subsequently implement it as intended. The use of a purveyor, someone trained in implementation research and practice principles, has been shown to enhance uptake of the innovation by practitioners within the agency by providing assistance and clarification as needed (Brekke, Phillips, Pancake, Lewis, & Duke, 2009; Stern et al., 2008), which can also impact the quality of the implementation. To reap the full benefits of an innovation, measuring and assessing implementation fidelity, as well as the factors that impact its use are essential.

Characteristics of the Practitioner. Participants' perception of (Carroll et al., 2007), knowledge about (Grol & Wensing, 2004), and ability to implement (McCollum et al., 2007) the innovation have been shown to hinder or facilitate the implementation of innovations. This supports the need to ensure adequate training on the innovation prior to implementation, as well as ongoing technical support to enhance uptake.

Use of and adherence to the innovation cannot guarantee quality implementation (Tucker & Blythe, 2008) and subsequent intended outcomes, as noted by Drake, Bond, and Rapp (2006) who found treatment fidelity only explained 20-60% of the variance in

program outcomes. Therefore, other factors influence case outcomes or act as potential moderators of the relationship between the innovation and its intended outcomes (Carroll et al., 2007). One such factor often discussed in the implementation literature is organization characteristics.

Characteristics of the Organization. In addition to practitioner characteristics, a number of organizational factors and dimensions of the organizational environment impact implementation of innovations. These include organizational climate, organizational culture, organizational structure, and absorptive capacity. According to Glisson (2002), organizational climate is how employees perceive their work environment, organizational culture is how things are done within an organization, and organizational structure is the centralization of power and formalization of roles within an organization. Organizational climate consists of concepts such as role conflict, role clarity, emotional exhaustion, and role overload. Conformity, consensus, level of support, and motivation are examples of organizational culture. Degree of formalization, involvement in decision-making, hierarchy of authority, and division of labor compose organizational structure.

Another dimension of organization that is understudied in the field of implementation research is absorptive capacity (Knudsen & Roman, 2004), which is defined as an organization's ability to access and effectively use information (Cohen & Levinthal, 1990). This concept is similar to that of collective adoption, which involves the majority of the staff within an organization accepting and implementing a new innovation (Katz, Levin, & Hamilton, 1963). There are some individuals within an

organization who may choose not to adopt the new practice despite documented benefits to clients (Simpson, 2009).

Collective adoption is only one aspect of implementation, but one that has been given little attention in the literature (Katz et al., 1963). To understand collective adoption, Schneider (1990) has conceptualized organizational climate as employees' shared perceptions of the degree to which their use of an innovation is rewarded, supported, and expected by the organization. Therefore, the more positive this perception, the more likely the employees will implement the innovation. Clearly, the organizational climate influences whether, and to what degree an employee will adopt the innovation; however, the infrastructure of the organization is often ignored by program planners implementing new innovations (Bond et al., 2009). Unless agencies are able to implement practice models as designed, the intended outcomes are unlikely to be achieved; therefore, assessing implementation fidelity and the factors influencing it is an essential aspect of any new innovation implementation process.

The failure of innovations to be successfully implemented into practice gave rise to the interest in implementation research (Fixsen et al., 2009) as innovations may succeed or fail depending on the dose or quality of the intervention (Dusenbury et al., 2003), as well as the level of management support, resources (Crampton, Crea, Abramson-Madden, & Usher, 2008), and practitioner knowledge, skills, and/or beliefs related to the innovation (Sanders, Prinz, & Shapiro, 2009). Therefore, studying implementation fidelity may help explain what predicts successful outcomes. Experts in other fields, such as education, believe implementation fidelity should be part of any outcome evaluation (Tucker & Blythe, 2008); however, social work has given less

attention to implementation fidelity in research (Dusenbury et al., 2003; Tucker & Blythe, 2008). Neglecting the assessment of implementation fidelity and measuring only case outcomes may result in concluding an intervention is ineffective when the primary concern may be the failure to implement the intervention as intended (Horner, Rew, & Torres, 2006).

C. Theoretical Framework

There are a number of terms used in implementation research literature that warrant clarification. The degree to which innovations are implemented with accuracy has been referred to in the literature as implementation fidelity (Carroll et al., 2007), fidelity of implementation (Dusenbury et al., 2003), treatment fidelity (Eames et al., 2008), treatment integrity (Perepletchikova & Kazdin, 2005; Tucker & Blythe, 2009), and fidelity (Fixsen et al., 2005). The lack of a common language reflects the ongoing development of the field of implementation research. Despite these varying terms, the definitions are similar: the extent to which innovations are implemented as intended. These concepts differ by their associated dimensions of fidelity. The dimensions are aspects of fidelity that will explain how well an innovation is implemented. These aspects include practitioner competence (how knowledgeable the practitioner is regarding the innovation), dose or exposure (the amount of the innovation received by the targeted population), participant responsiveness (how engaged the recipient is in the innovation), quality (how well the practitioner implements the components of the innovation), and adherence (the degree to which all aspects of the innovation are implemented as intended) (Carroll et al., 2007; Dusenbury et al., 2003; Fixsen et al., 2005). The term *implementation fidelity* will be used in this dissertation as it is the term often used in

community-based intervention research (Carroll et al., 2007), which is the type of research conducted for this study as intervention research involves testing the fidelity of the implementation process (Fraser, Richman, Galinsky, & Day, 2009). The aspect of fidelity that will be measured is *adherence* as this is the most encompassing measurement of implementation fidelity (Tucker & Blythe, 2008).

The literature is replete with theoretical frameworks that explicate the implementation process. A few of them will be explored here. The Texas Christian University Program Change Model (Simpson & Flynn, 2007) identifies innovation implementation as occurring in stages: (a) training, which consists of practitioners' exposure to the innovation; (b) adoption, which involves practitioners making the decision to use the innovation as the innovation fits within existing values or culture of the organization; (c) implementation, which occurs when the innovation is regarded by the practitioners as effective and feasible and thus adhered to; and (d) practice, which occurs when the innovation becomes standard practice and presumably brings about positive case outcomes.

The National Implementation Research Network's (NIRN) implementation framework (Fixsen, Panzano, Naoom, & Blase, 2008) identifies specific implementation drivers that lead to implementation fidelity (see Figure 1). The framework comprises competency (selection, training, coaching) and organization (systems intervention, facilitative administration, and decision support/data support) drivers that are evaluated over time (Performance Assessment) to allow adjustments in either of the drivers in order to ensure implementation fidelity. Supporting the notion that training alone does not ensure implementation, these implementation drivers work interactively to influence

practitioners' behaviors and organizational culture to enhance implementation fidelity. According to Fixsen et al. (2008), these core implementation components can be viewed as drivers around a circle with two headed arrows going from one driver to every other driver. Therefore, a weakness in one implementation driver can be compensated for by strengths in other drivers. The premise in this model is that an ineffective program can be implemented well and an effective program can be implemented poorly and the outcome depends upon the degree to which the core implementation drivers are integrated and adjusted based on feedback received from key stakeholders throughout the implementation process (Fixsen et al., 2008).

During training, practitioners receive the necessary knowledge to adopt the innovation, in addition to the key values related to the innovation. This sets the stage to align the practitioners' values/beliefs with those of the innovation, which fosters practitioner buy-in. Ongoing fostering of the change in staff members' values/beliefs occurs during coaching or consultation by those trained in the innovation. Evaluation of staff performance occurs over time to assess the degree to which practitioners are implementing the innovation with fidelity. This information is used during coaching sessions to provide practitioner feedback and ensure ongoing adherence to the innovation. Additional outcome data are collected to assess the overall performance of the agency and the impact implementation fidelity has on innovation outcomes. Ongoing support from administration is essential to prevent program drift and ensure high implementation fidelity. Finally, organizations must ensure practitioners have access to necessary resources to support implementation fidelity.

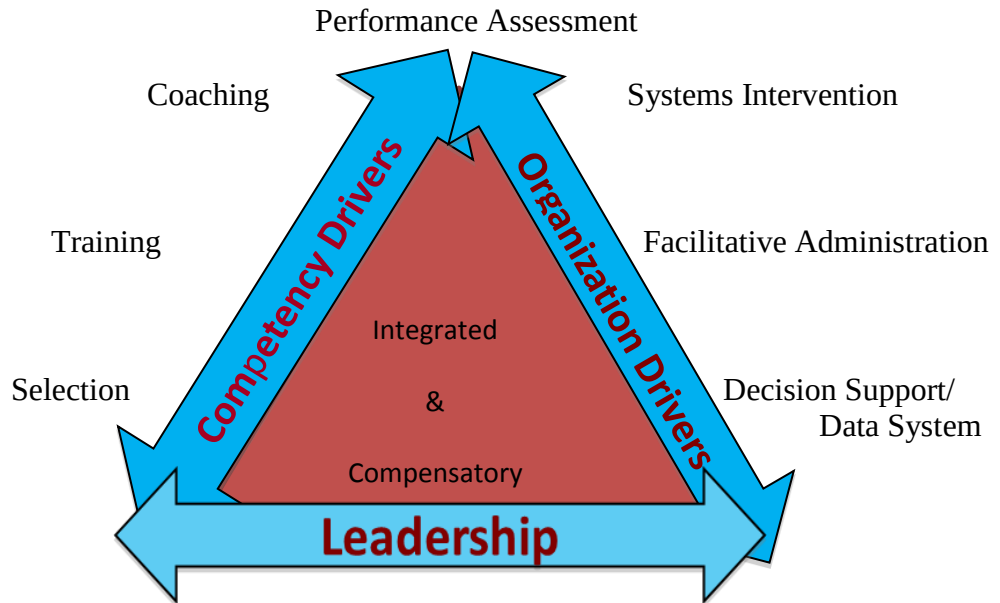


Figure 1. NIRN Implementation Drivers

Carroll et al. (2007) offer a conceptual model that examines the interrelated effects of five elements of implementation fidelity. These five elements are (a) exposure or dose (the amount of an intervention received), (b) adherence (the degree to which a program is delivered as designed), (c) quality of delivery (the manner in which the intervention is delivered), (d) participant responsiveness (the degree to which participants respond to and are engaged in intervention), and (e) program differentiation (the specific components of an intervention that are essential). Attaining high fidelity is not easily achieved due to a number of components that may impact the degree of implementation fidelity. For example, the complexity of the intervention, the level of training and support practitioners receive throughout implementation, the practitioners' beliefs concerning the intervention, and the organization's level of commitment to an intervention are all considered components that may moderate implementation fidelity.

The degree of implementation fidelity subsequently changes an intervention's intended outcomes.

Despite varying specifics within each framework outlined above, each approach acknowledges the influence practitioner and organizational factors have on implementation. To determine the degree to which an innovation is adopted, implemented, and subsequently becomes part of practice, it is essential to examine the practitioner and organizational factors that may foster or prevent innovation implementation and the innovation becoming a part of practice. As a result, organizational structure and practitioner characteristics are the two constructs that underpin the theoretical framework used for this dissertation and are further explored below.

Child Welfare Organizational Structure. Child welfare agencies follow a bureaucratic organizational structure (Fabricant, 1985). The classical bureaucratic model is characterized by a hierarchical ordering of individuals with well-defined roles and responsibilities and with only the necessary authority to complete their job duties (Gordon, 1970; Wasserman, 1971). Further, the behaviors of the individuals within an organization are maintained through a set of rules and regulations that stipulate the exact manner in which duties are to be executed (Gordon, 1970).

These duties become routine, which fosters the bureaucratic structure, leaving little discretion for worker innovation. Rather, federal mandates dictate state public child welfare laws and regulations, which determine the local agency's rules and practice and hence, the caseworker's role and job duties. According to the bureaucratic model, an individual worker's attitudes, values, and behaviors within the organization are

determined by the organizational climate (Gordon, 1970). Solomon (1976) has described public bureaucracies as organizations that have the ability to adversely influence the employees, clients, and service delivery. As a result, workers' case decisions may be a product of the organizational culture and climate (Cearley, 2004), which may vary from agency to agency.

Lipsky (1980) has described this process of bureaucratization in his infamous book, *Street-Level Bureaucracy*, where he suggests working conditions, such as limited resources, time constraints, and conflicting goals, influence frontline workers' ability to implement policy. This lack of policy implementation will influence the effectiveness of case outcomes. Given the innate bureaucratic structure of public child welfare agencies, it is essential to consider the phenomenon of innovation implementation when evaluating case outcomes to understand innovation effectiveness.

Diffusion of Innovations. Diffusion of innovations, which rural sociologist Everett Rogers (2003) is credited with developing, is described as the spread of ideas among individuals, primarily through imitation. Diffusion of innovations explains how, and whether, a new innovation is implemented within an organization by examining the organizational climate. Diffusion is considered a process characterized as the (1) acceptance, (2) over time, (3) of some specific item—an idea or practice, (4) by individuals, groups or other adopting units, linked (5) to specific channels of communication, (6) to a social structure, and (7) to a given system of values, or culture (Katz et al., 1963). Rogers described the adoption process as S-shaped due to individual adopters' varying degree of willingness to adopt a new innovation, which may be influenced by personality characteristics, motivation to change, perceived needs,

knowledge about the innovation, and meaning attributed to the innovation (Greenhalgh et al., 2004). As a result, there will be the early adoption of the innovation by some, then a gradual diffusion or spread of the innovation over time, followed by the late adoption of the innovation by others within the organization. In addition, according to the theory, approximately 16% of staff will lag behind others in adopting the innovation (Rogers, 2003). Rogers refers to them as *laggards*.

Diffusion of innovations theory has been applied to a variety of disciplines including anthropology, communications, economics, marketing, sociology, political science, geography, and public health (Rogers, 2003). The diffusion process includes four main elements: a) the innovation, b) the communication channels, c) time, and d) the social system (Rogers, 2003); however, the diffusion process is a general process not bound by the innovation, adopters, or culture, thus making it applicable to a wide variety of disciplines. The end result of this process is the adoption, implementation, and institutionalization of the innovation (Rogers, 2003). Adoption refers to an individual or organization's decision to use the innovation; whereas, implementation refers to putting the innovation into practice and institutionalization refers to fully embracing the innovation and making it a part of routine practice (Dusenbury & Hansen, 2004).

Initial diffusion studies focused on the characteristics of the innovation, specifically the qualities of simplicity (ease of use), relative advantage (clear advantage in either effectiveness or cost-effectiveness), compatibility (compatible with practitioners' values, norms, and perceived needs), trialability (ability to experiment on limited basis with the innovation), and observability (visible benefits to practitioner) (Greenhalgh et al., 2004). However, researchers exploring barriers to implementation of

innovations identified the importance of studying key adopters' perceptions of the innovation rather than innovation attributes alone (Greenhalgh et al., 2004). Innovations perceived by key adopters as simple, effective, and consistent with their values, norms, and needs are more likely to be adopted (Rogers, 2003).

According to the theory, individuals within an organization are influenced by the organizational climate, and in turn, influence the organization. This reciprocal effect determines whether, and to what extent the innovation is implemented, which is referred to as the innovation-values fit, that is, the individual member's perceptions of the fit of the innovation to his or her values (Klein & Sorra, 1996). The innovation-values fit may vary between an organization's staff members, thus explaining the varying degrees of acceptance and implementation of an innovation within an organization. However, once an innovation is implemented by some staff members, it is more likely that it will be implemented by others within the organization, especially if the attitude toward the innovation by those who adopted it is positive (Greenhalgh et al., 2004). Greenhalgh et al. (2004) also identified a number of organizational climate factors that may impede the adoption of the innovation, which include the size of the organization, the availability of resources, the hierarchy of the organization, the organization's capacity for new knowledge, and the general climate for openness to change.

Conceptual Framework. Diffusion of innovations theory places emphasis on the process of putting new ideas/innovations into practice (Rogers, 2003), rather than on the fidelity of the implementation. Figure 2 illustrates the conceptual model guiding this dissertation. This illustration incorporates the key components of diffusion of innovations theory (organizational and practitioner characteristics). In addition,

borrowing from the work of Carroll et al. (2007), this model examines the effect these key components have on implementation fidelity. This model illustrates how practitioner and organizational components moderate the previously demonstrated effectiveness of EBPs or evidence-supported treatments (ESTs) implemented in specific organizations. Although the practice model examined for this study is not an EBP, it is supported by empirical evidence. These components may directly or interactively influence implementation fidelity, which according to Carroll et al. is essentially the measurement of adherence or the degree to which components of the innovation are delivered as prescribed. This conceptual model depicts the relevant factors related to fully understanding implementation fidelity; however, this dissertation focuses only on those factors not shaded in the model.

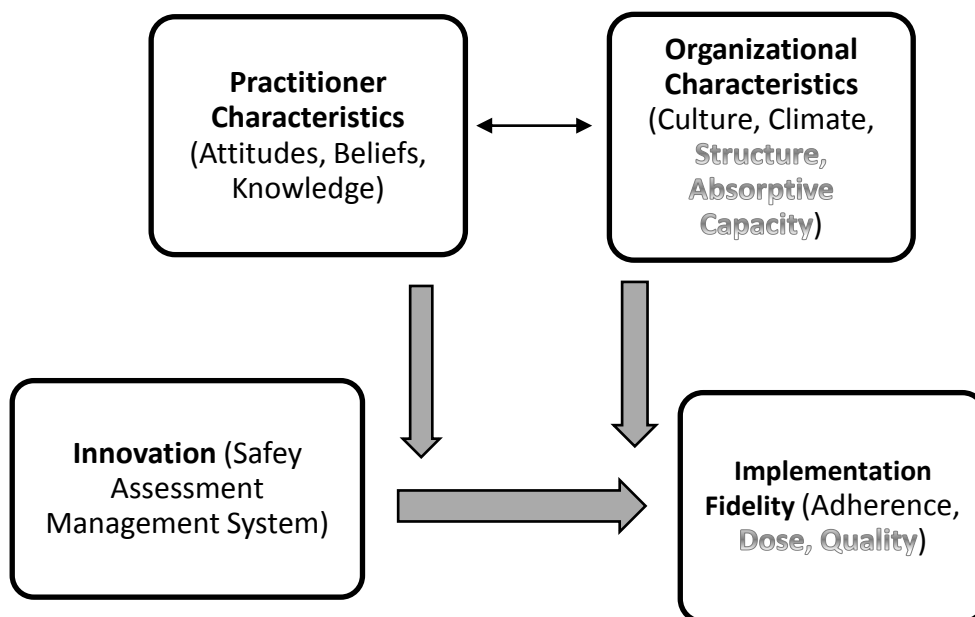


Figure 2. Conceptual Model

D. Relevance for Social Work

According to Proctor (2004), the research-practice gap can be significant to clients as the quality of services may be compromised and be potentially harmful to the client due to the practitioners' use of ineffective services and/or inaccurate implementation of effective care. One way to reduce and address the research-to-practice gap is to ensure the effective implementation of practice models in social service agencies. Utilizing the diffusion of innovations theoretical framework also helps address this challenge (Murray, 2009). Implementation fidelity data are essential in order to draw valid conclusions about practice outcomes, which make implementation fidelity an important methodological concern in both practice and research (Shadish, Cook, & Campbell, 2002).

Public child welfare agencies are charged with ensuring the safety, permanency, and well-being of children referred due to allegations of abuse and/or neglect. Protecting children from the occurrence and recurrence of child maltreatment is the primary purpose of child protective services (DePanfilis & Zuravin, 1999). In the United States, approximately 763,000 children were abused and/or neglected in 2009 (United States Department of Health and Human Services, 2010). Prior studies examining child maltreatment recurrence found families to be most at-risk 4 (DePanfilis & Zuravin, 1999; Lipien & Forthofer, 2004) to 6 months (Connell, Bergeron, Katz, Saunders, & Tebes, 2007) following initial CPS report. Additionally, higher levels of implementation fidelity of innovations result in better case outcomes (Hagermoser Sanetti & Kratochwill, 2009), which suggests, in child welfare, when innovations aimed at ensuring child safety are implemented with high fidelity, the outcome may lead to reduced rates of CPS re-referral.

To ensure the ongoing safety of children, child welfare workers are charged with making critical decisions about substantiating reports of child abuse or neglect and identifying the potential risk for future harm. Inaccurate case decisions can be devastating, with the most serious outcomes resulting in the injury or death of a child (Jones, Washington, & Steppe, 2007). Historically, child welfare practitioners relied on practice wisdom to guide their decision-making regarding the current and future risk of child maltreatment. Child welfare has moved from using clinical judgment as a predictor of child maltreatment (Gambrill & Shlonsky, 2000) to relying on standardized assessments in an attempt to more reliably predict future child maltreatment (Crea, Barth, Chintapalli, & Buchanan, 2009a). Specifically, the risk assessment model was the most widely used framework guiding instruments that attempted to structure caseworkers' decisions about the likelihood of future harm (Crea, 2010) by including the risk assessment tool factors related to the recurrence of child maltreatment found in the empirical literature rather than gleaned from clinical judgment and intuition (Baird & Wagner, 2000). These risk assessments, however, have been criticized for not assisting workers in developing case-specific intervention plans, not engaging families in the case planning process (Crea, 2010; Shlonsky & Wagner, 2005), and not identifying protective factors that may buffer the effects of the risks (Gambrill & Shlonsky, 2000). Further, research on the utilization of these actuarial models to assess risk show that practitioners may not implement the model as intended and may choose to not implement the model entirely (DePanfilis & Zuravin, 2001). In doing so, practitioners resort to relying on their knowledge and experience derived from practice and educational training, which have been shown to vary across practitioners and result in faulty decision-making (Cash,

2001). These inconsistencies or inaccuracies in workers' clinical judgments (Crea et al., 2009a; DePanfilis & Girvin, 2005; Regehr, Bogo, Shlonsky, & LeBlanc, 2010) have resulted in a move toward a structured decision making process in child welfare assessments (Crea et al., 2009a). Structured decision making models must balance the identification of risk and protective factors (Crea, 2010) to effectively target high-risk families and prevent child maltreatment recurrence (Children's Research Center, 1999). Additionally, structured decision making models may lead to consistencies across cases and workers (Crea, 2010).

Child welfare is accountable to the population it serves. By including implementation fidelity as part of innovation effectiveness research, social scientists can link observed outcomes to the implementation process (Cosner-Berzin, Thomas, & Cohen, 2007), thus highlighting areas of practice warranting modification. Through this dissertation, the degree to which a public child welfare agency successfully implemented a safety focused practice model that emphasizes critical thinking and consistent decision-making to ensure optimal family assessment, safety evaluation, and subsequent safety management was elucidated.

CHAPTER TWO: LITERATURE REVIEW

The conceptual model depicted in the previous chapter provided the framework for the search of the literature. A comprehensive search was conducted using periodical databases from various disciplines including social work (Social Work Abstracts), sociology (SocINDEX with Full Text), psychology (PsycInfo), medicine/nursing (PubMed), and education (EBSCOHost). A combination of the following keywords was used to identify relevant journal articles: “implementation,” “fidelity,” “implementation fidelity,” “adherence,” “practitioner characteristics,” “worker characteristics,” “organizational characteristics,” “organizational culture,” and “organizational climate.” In addition to the formal search strategy, several studies were found using the reference lists of journal articles. Further, two comprehensive reviews (Fixsen et al., 2005; Greenhalgh et al., 2004) produced additional relevant studies.

The search strings used to identify studies that examine the relationship between practitioner characteristics and implementation fidelity were “practitioner” OR “worker characteristics” AND “implementation” OR “fidelity” OR “adherence” OR “implementation fidelity;” whereas the search strings used to identify studies that examine the relationship between organizational characteristics and implementation fidelity were “organizational characteristics” OR “organizational culture” OR “organizational climate” AND “implementation” OR “fidelity” OR “adherence” OR “implementation fidelity.”

The initial search yielded 635 articles; however, a number were immediately excluded for review as they were theoretical or descriptive in nature (e.g., Cash & Berry, 2003; Crea, Usher, & Wildfire, 2009b) and/or measured client outcome as the primary

dependent variable without considering the impact the degree of implementation fidelity of the practice model has on the outcome (e.g., Eames et al., 2009; Sanchez et al., 2007). Additionally, a number of studies were qualitative (e.g., Crampton et al., 2008; Gowdy, Carlson, & Rapp, 2004; Helfrich, Weiner, McKinney, & Minasian, 2007; McCollum et al., 2007; Polizzi Fox, Gottfredson, Kumpfer, & Beatty, 2004; Wieder, Boyle, & Hrouda, 2007; Wright, Hiebert-Murphy, & Trute, 2010). Although excluded from the review of quantitative studies, a synthesis of the qualitative studies will be provided to highlight their focus and findings. As implementation research is a relatively new phenomenon in social work, studies from the medical and nursing fields, which have a longer history of conducting implementation research, were reviewed to provide background knowledge and the findings will be synthesized below, however, they are excluded from the specific review so as to not deviate from the focus of this dissertation. Additionally, a review of the single-system research literature, specifically as a method employed in implementation research, was conducted.

To identify relevant articles, the abstract of each of the articles was reviewed using the following inclusion criteria: a) implementation fidelity was measured as an outcome (dependent variable), b) practitioner and/or organizational characteristics were included as independent variables, c) quantitative research methods were primarily employed, and d) studies were published in the last 10 years (with a cut off of 2000 in order to capture current trends regarding implementation research). This resulted in 14 studies (see Appendix A) that are included in the review of practitioner and/or organizational characteristics and implementation fidelity and are the subject of the following literature review.

A. Synthesis of Implementation Research Conducted in the Medical/Nursing Field

Evidence-based practice has a long history in the field of medicine, some believing it evolved out of the “do no harm” doctrine (Morago, 2006). In the early years of medicine, the primary focus was on the delivery, receipt, and adherence to treatment (Shadish et al., 2002). The focus was on ensuring patient compliance with implemented medical treatment such as taking prescribed medicine and following through with treatment recommendations. A study published in 1958 (“Treatment recommendations”) revealed approximately 3% of treatment plans were completely implemented as prescribed. Additionally, adherence to treatment varied depending upon the treatment type. For example, patients were found to have lower levels of adherence to treatment if required to receive counseling or education than if they were prescribed medication or testing (McGlynn et al., 2003). As a result, emphasis was placed on ways practitioners might enhance patients’ adherence to treatment, including utilization of family members to encourage follow through, use of aids such as tape recordings or motivational cards as reminders, or utilization of incentives such as raffle tickets for demonstrated adherence to the treatment (Shadish et al., 2002). These early years of treatment implementation may also derive from the medical model (Kane, 1982) where the focus was on identifying, diagnosing, and treating the illness. In child welfare, in early years, the emphasis on identifying risks, developing treatment plans, and monitoring compliance (Milner, 2003) seems similar to the medical model as little attention was given to the relationship between the patient/client and practitioner and how that relationship may impact treatment adherence.

Medical practitioners’ views toward evidence can be divided into four

phases (Naylor, 2002). Phase 1, coined the Era of Optimism, was characterized as passive diffusion: scientific evidence published in journals would be applied by the medical professionals reading them. Also during this phase, much attention was placed on educating practitioners on how to seek, evaluate, and implement evidence into practice (Naylor, 2002). Various methods were employed to improve the performance of practitioners implementing evidence-based practices, including summary audits (providing feedback to practitioner on his/her performance over period of time), conferences, outreach visits, reminder systems (establishing follow-up appointment systems), and educational material.

In the mid-1970s, a method referred to as peer review, which consisted of a retrospective audit of a patient's chart to assess areas in which further training is needed by the practitioner in order to improve standards of practice, was implemented as a means of assessing practitioners' use of evidence (Egan, 1979; Landers, 1975). This audit is similar to methods employed today to measure implementation fidelity by reviewing case records. Oxman, Thomson, Davis, and Haynes (1995) conducted a systematic review to determine which of the above methods enhanced health care professionals' use of research evidence in guiding their practice. Use of outreach visits was identified as more effective than dissemination-only strategies such as attending conferences (Oxman et al., 1995).

However, according to Archibald Cochrane, most practitioners relied on peer opinion, tradition, or anecdotal experience, rather than evidence to guide their everyday practice (Morago, 2006). Social work practice also relied on passive means to disseminate knowledge and experienced an increase in publishing research articles in

social work journals as they constituted the primary means for disseminating this practice knowledge (Rosen, Proctor, & Staudt, 1999). Social work witnessed the founding, in the 1970s, of the first two social work journals dedicated to publishing research: *Social Work Research & Abstracts* and *Journal of Social Service Research* (Rosen et al., 1999). Despite these efforts to disseminate evidence, a review of relevant social work research journals found only 47% of the articles were empirical and only 7% of the empirical articles evaluated the effectiveness of interventions (Rosen et al., 1999).

In an effort to ensure high quality dissemination of evidence, in 1993, Cochrane created an electronic database for publishing systematic reviews of health care related research (Morago, 2006). This marks Phase 2, the Era of Innocence Lost and Regained. This phase was also based on the premise of active dissemination but through the publishing of practice guidelines based on systematic reviews of evidence published in the literature. Due to the perceived success of the Cochrane Collaboration, members from the social and behavior sciences field convened in 2000 to create the sibling organization, The Campbell Collaboration, named after Donald Campbell, to publish systematic reviews of the effectiveness of social interventions (<http://www.campbellcollaboration.org/>).

Although evidence-based practice (EBP) has grown in the United States since the 1990s, there was an increasing disinterest in EBP as community-based outcome studies found them to be ineffective (Morago, 2006), despite no discussion about the degree to which they were implemented. As a result, best practice guidelines were not necessarily implemented as intended, which led to Phase 3, the Era of Industrialization. The emphasis in this phase was on the aggressive implementation of evidence coupled with

measuring and monitoring the quality of this implementation in order to promote practitioner accountability and quality improvement (Naylor, 2002). At its core is the development of implementation as a science, and the need to establish consistent terminology and theoretical and conceptual frameworks to use in testing fidelity (Damschroder et al., 2009; Proctor et al., 2009). Social work has also identified the need to create a conceptual framework to guide implementation research, such as that developed by Fixsen et al. (2005), which explicates core implementation components necessary to foster implementation fidelity of innovations in practice settings.

The fourth and current phase, the Era of Information Technology and Systems Engineering, which has gathered momentum over the past few years, emphasizes the need not only to focus on practitioners but also to consider the organizations in which these innovations are implemented in order to address the barriers that may prevent the uptake of evidence-based innovations into routine practice. This current phase requires medical researchers to consider various factors, including practitioner attitudes, health facility characteristics, and national health care system requirements when conducting implementation fidelity research (Bhattacharyya et al., 2009). This phase requires the consideration of key stakeholders and what, if any, impact they may have on hindering or facilitating the adoption of an innovation and subsequent implementation fidelity. As a result, many researchers first assess an organization's readiness for change to develop a planned change process and minimize barriers to implementation fidelity (Hamilton, McLaren, & Mulhall, 2007).

Assessing an organization's readiness to change cannot be overlooked as a previously proven effective innovation may never be implemented with high fidelity if

staff members do not embrace the benefits of the innovation, view the innovation as consistent with their and the organization's values, and/or perceive their organization as having the support and resources necessary to implement the innovation (Simpson, 2009). Understanding the organization's current level of readiness on these factors allow organizations to respond to potential barriers during the initial training and ongoing coaching in order to foster high implementation fidelity.

B. Synthesis of Qualitative Implementation Research Studies

Seven qualitative implementation studies that met the inclusion criteria set forth above for quantitative studies were reviewed and will be synthesized here. Three of the qualitative studies (Crampton et al., 2008; Polizzi Fox et al., 2004; Wright et al., 2010) used an ethnographic research design comprising interviews and focus groups of program staff, administrators, supervisors, and/or implementation facilitators. The remaining studies used a case study design (Gowdy et al., 2004; Helfrich et al., 2007; McCollum et al., 2007; Wieder et al., 2007); three in particular utilized a comparative case study method to examine the differences between high and low fidelity program/organizations (Gowdy et al., 2004; Helfrich et al., 2007; McCollum et al., 2007). Only three studies utilized a theoretical framework to guide the research. These frameworks included Bronfenbrenner's (1979) Systems Perspective, Lipsky's (1980) Street-Level Bureaucracy, and Klein and Sorra's (1996) Organizational Framework. The innovations examined ranged from new programs such as supported employment and early intervention parenting programs to new ways of practice such as team decision-making and family-centered practice models. The number of the programs or organizations examined ranged from two to nine. All of the studies explored factors (practitioner

and/or organizational) that facilitate and/or hinder implementation of the innovation.

Common themes were extracted from the data collected, which produced the following results. Inadequate practitioner skills or experience and negative practitioners' attitudes or perceptions toward the innovation impacted successful implementation (Gowdy et al., 2004; McCollum et al., 2007; Wieder et al., 2007; Wright et al., 2010).

The following organizational factors were identified as barriers to successful innovation implementation: lack of management/supervisor support, lack of resources to implement new program/model, lack of communication between management and staff, lack of sufficient training, and high caseloads (Crampton et al., 2008; Gowdy et al., 2004; Helfrich et al., 2007; McCollum et al., 2007; Polizzi Fox et al., 2004; Wright et al., 2010).

The findings from these qualitative studies support the notion that certain practitioner and organizational characteristics hinder and/or facilitate implementation fidelity, thus supporting the need for including these variables in this dissertation's conceptual model to assess the relationship between these variables and implementation fidelity. All of the studies explored implementation fidelity from various key stakeholders' perspectives. Soliciting feedback from key stakeholders is one method to produce buy-in, which enhances implementation fidelity. This supports the implementation framework (Fixsen et al., 2005) that guided this implementation research study.

C. Quantitative Studies Exploring Practitioner and/or Organizational Characteristics and Implementation Fidelity

Of the 14 studies examined for this review, 5 explored the relationship between

organizational characteristics and implementation fidelity, whereas 9 explored a combination of organizational and practitioner characteristics and their relationship to implementation fidelity. The studies' designs, theories, variables, samples, innovations, analyses, findings, and limitations are explored. This chapter will end with a summary of similarities extracted from this review.

Study Designs and Objectives

Research Design. The majority (9) of the studies used a retrospective cross-sectional design to explore the relationship between organizational characteristics and implementation fidelity (Kantambu Latting et al., 2004; Livet, Courser, & Wandersman, 2008; Mihalic, Fagan, & Argamaso, 2008; VanDeusen Lukas, Mohr, & Meterko, 2009) or practitioner and organizational characteristics and implementation fidelity (Allen, Lehrner, Mattison, Miles, & Russell, 2007; Cooke, 2000; Cronley & Patterson, 2010; Klimes-Dougan et al., 2009; Sanders et al., 2009). Four studies used longitudinal designs: three utilized prospective cohorts (Henggeler et al., 2008; Schoenwald, Chapman, Sheidow, & Carter, 2009; Zvoch, 2009) and one utilized follow-up (Gotham, Claus, Selig, & Homer, 2010). Only one study used a true experimental design (Stein et al., 2008).

Theories. Seven studies tested specific theories, including Berman's (1980) evaluation theory (Zvoch, 2009), Klein and Sorra's (1996) climate for implementation theory (Allen et al., 2007), Blau's (1964) social exchange theory (Kantambu Latting et al., 2004), Rogers' (2003) diffusion of innovations theory (Cooke, 2000; Henggeler et al., 2008; Sanders et al., 2009), Schein's (1985) organizational theories (Cronley & Patterson, 2010), and Rousseau's (1977) sociotechnical theory (Cronley & Patterson,

2010). Despite the difference in theoretical underpinnings of these studies, they were similar in their emphasis on understanding the factors that explain implementation fidelity. All studies used prior implementation science literature to justify variables measured. Specifically, seven studies (Allen et al., 2007; Gotham et al., 2010; Klimes-Dougan et al., 2009; Livet et al., 2008; Mihalic et al., 2008; Stein et al., 2008; VanDeusen Lukas et al., 2009) used implementation conceptual models (e.g., Dane & Schneider, 1998; Klein & Sorra, 1996; Fixsen et al., 2005; Greenhalgh et al., 2004) as frameworks. Although the conceptual models differ in specifics, each acknowledges that implementation is influenced by practitioner and organizational factors.

Practitioner Characteristics Measured. Despite utilizing an implementation conceptual model and/or exploring the implementation science literature, as previously stated, only nine of the studies reviewed (Allen et al., 2007; Cooke, 2000; Cronley & Patterson, 2010; Gotham et al., 2010; Henggeler et al., 2008; Klimes-Dougan et al., 2009; Sanders et al., 2009; Stein et al., 2008; Zvoch, 2009) measured *both* practitioner and organizational characteristics. Five of these studies (Cooke, 2000; Henggeler et al., 2008; Klimes-Dougan et al., 2009; Stein et al., 2008; Zvoch, 2009) measured *practitioner characteristics* objectively (collecting various demographic characteristics) *and* subjectively (using a measure), whereas two of these studies (Cronley & Patterson, 2010; Sanders et al., 2009) used *only* objective measures and two (Allen et al., 2007; Gotham et al., 2010) used *only* subjective measures of practitioner characteristics.

Some examples of objective indicators of practitioner characteristics include practitioners' age, gender, job experience, number of years employed, occupation, race/ethnicity, and educational background. Of the seven studies that measured

practitioner characteristics objectively, all but one (Cronley & Patterson, 2010) used a combination of these objective factors. Cronley and Patterson (2010) looked only at the influence practitioner's gender has on implementation fidelity.

Various measures were employed to assess self-reported practitioner characteristics that have been shown in prior literature to impact implementation fidelity. The specific measures employed to capture subjective practitioner characteristics included the NEO-Five Factor Inventory and a modified Pre-Implementation Expectancies (PIE) scale (Klimes-Dougan et al., 2009), a modified practitioner attitude scale developed by Addis and Krasnow (2000), and the Evidence-Based Practice Attitude Scale (EBPAS) (Henggeler et al., 2008). Staff Attributes Index was created by averaging subscales from the Organizational Readiness for Change Scale (Gotham et al., 2010) and researcher developed scales (Allen et al., 2007; Cooke, 2000; Klimes-Dougan et al., 2009; Stein et al., 2008; Zvoch, 2009). These instruments vary in the concepts they measure; however, for most, the main concepts include practitioners' attitudes and/or beliefs regarding the innovation (EBPAS, researcher developed questionnaires) and knowledge/skills related to the innovation (Staff Attributes Index, researcher developed questionnaires). Only one study (Klimes-Dougan et al., 2009) utilized a scale (NEO-Five Factor Inventory) that assessed practitioners' personality including agreeableness, openness, and conscientiousness.

Organizational Characteristics Measured. When measuring *organizational characteristics*, seven of the studies used standardized scales including the Employer Trust in Management and Affective Commitment scales (Kantambu Latting et al., 2004), the Organizational Climate Survey (Klimes-Dougan et al., 2009), the Organizational

Culture Survey (Cronley & Patterson, 2010; Klimes-Dougan et al., 2009), the Psychological Climate Questionnaire (Schoenwald et al., 2009), the Work Environment Scale (Cooke, 2000), and the Organizational Readiness for Change Survey (Gotham et al., 2010; Henggeler et al., 2008). A number of researchers developed their own scales to measure various characteristics of the organization being studied (Livet et al., 2008; Mihalic et al., 2008; Sanders et al., 2009; Stein et al., 2008; VanDeusen Lukas et al., 2009). Only two studies (Allen et al., 2007; Zvoch, 2009) used *objective* means to measure organizational characteristics, which included agency size, location, policies present, and presence of standardized protocols. None of the studies reviewed measured all three organizational constructs (climate, culture, structure). Three studies used climate and culture to measure organizational characteristics (Henggeler et al., 2008; Kantambu Latting et al., 2004; Klimes-Dougan et al., 2009), two used culture and structure (Livet et al., 2008; VanDeusen Lukas et al., 2009), two used climate and structure (Gotham et al., 2010; Schoenwald et al., 2009), two only measured culture (Mihalic et al., 2008; Stein et al., 2008), two only measured structure (Cooke, 2000; Cronley & Patterson, 2010), and one study only measured climate (Sanders et al., 2009). As noted, organization is a multi-dimensional construct, which requires a thorough exploration of each to examine the degree to which an organization hinders or facilitates the implementation process. However, most studies within this review focused exclusively on one or two aspects of an organization.

Measuring Implementation Fidelity. Due to implementation fidelity being a new area of study, few standards exist to measure this construct (Mayer & Davidson, 2000). In part this is related to the unique concepts associated with each intervention

being implemented, making it a challenge to develop a scale applicable across service areas (Dusenbury et al., 2003). As a result, each study in this review incorporated researcher developed surveys to measure implementation fidelity.

Adherence was the criterion used most often to measure implementation fidelity in these studies. Although adherence was defined somewhat differently across the studies, the intention was the same: to assess the degree to which an innovation was implemented as intended. In addition to adherence, two studies (Cooke, 2000; Henggeler et al., 2008) measured exposure, and four studies (Gotham et al., 2010; Kantambu Latting et al., 2004; Stein et al., 2008; VanDeusen Lukas et al., 2009) measured quality. None of the studies used all five ways to measure the complex concept of implementation fidelity (exposure, dose, adherence, quality, participant responsiveness) suggested by Dane and Schneider (1998); however, Klimes-Dougan et al. (2009) measured adherence, quality, and exposure, and Mihalic et al. (2008) measured adherence, quality, exposure, and participant responsiveness. Only two studies (Cronley & Patterson, 2010; Sanders et al., 2009) did not measure adherence to assess implementation, selecting exposure as their criterion for fidelity.

Samples

Due to the nature of this research, the unit of analysis for all but one of these studies (Sanders et al., 2009) was organizations. Sanders and colleagues (2009) chose to use individuals ($N = 650$) as their unit of analysis to assess the degree to which employees implemented a new program, measured by employees' self-reported use of the program. The sample size of the other studies varied from 6 to 105 organizations. Additionally, the number of employees within each organization from which the data

were collected varied even more. These numbers ranged from 56 to 3,870 employees. The study (Mihalic et al., 2008) with the largest sample of 105 agencies was not the study with the largest number of employees sampled (VanDeusen Lukas et al., 2009). Further, the study with a sample of six agencies (Kantambu Latting et al., 2004) was not the study with the least number of employees sampled (Livet et al., 2008). The organizations studied included schools, mental health agencies, hospitals, and various not-for-profit agencies, although none were child welfare or child welfare related agencies. The agencies were located in both urban and rural environments.

Innovations

Although little attention was given to the complexity of the innovations implemented in the studies explored for this review, the complexity of an innovation has the potential to influence the fidelity of implementation (Carroll et al., 2007; Dusenbury et al., 2003). Of the studies examined for this review, six implemented a program that was new to the organization such as the Early Risers prevention program (Klimes-Dougan et al., 2009), Triple P Parenting program (Sanders et al., 2009), Life Skills Training program (Mihalic et al., 2008), Fresh Start smoking cessation program (Cooke, 2000), childhood literacy programs (Zvoch, 2009), Multi-Systemic Treatment (Schoenwald et al., 2009), and K-PALS program (Stein et al., 2008). The remaining studies reviewed implemented a new service delivery model, which was to become a new way of practice for the organization, and thus more complex, often requiring a paradigmatic shift in addition to the acquisition of new knowledge. Some examples of the service delivery models included Continuum of Care (Cronley & Patterson, 2010), Co-Occurring Disorder Services (Gotham et al., 2010), and Advanced Clinic Access

(VanDeusen Lukas et al., 2009). Only one of the studies implementing a new program exclusively examined the impact of organizational characteristics on implementation fidelity; the other studies implementing a new program explored practitioner and organizational characteristics. As for the studies examining implementation fidelity of new service delivery models, four exclusively examined organizational characteristics. This may support the notion that complex innovations require the necessary organizational supports (i.e., supervision, training, resources), which may explain the rationale for focusing solely on those organizational factors shown to impact implementation fidelity. In fact, two of these studies (Livet et al., 2008; VanDeusen Lukas et al., 2009) utilized an organizational framework to design their research.

Data Analytic Strategies

Researchers used various statistical methods to explore the relationship between practitioner and/or organizational characteristics and implementation fidelity. The majority (7) of the studies used hierarchical linear modeling (HLM) (Allen et al., 2007; Cronley & Patterson, 2010; Henggeler et al., 2008; Schoenwald et al., 2009; Stein et al., 2008; VanDeusen Lukas et al., 2009; Zvoch, 2009) due to the nested nature of the data (individuals, organizations) explored. Five studies (Cooke, 2000; Gotham et al., 2010; Klimes-Dougan et al., 2009; Mihalic et al., 2008; Sanders et al., 2009) used regression techniques in addition to correlations (Klimes-Dougan et al., 2004), or repeated measures (Gotham et al., 2010). Two studies (Kantambu Latting et al., 2004; Livet et al., 2008) only used correlations. Of the four longitudinal studies, three used HLM, whereas one study (Gotham et al., 2010) used multiple regression and repeated measures to test various hypotheses regarding practitioner and organizational characteristics and

implementation fidelity. Some studies did not use HLM due to small sample sizes or a lack of nested data (i.e., only explored organizational characteristics).

Findings

Although the studies reviewed explored factors (practitioner and/or organizational) that are related to implementation fidelity, due to the way fidelity was defined (use/exposure, adherence, quality), comparing results is a challenge. Additionally, most studies explored the direct effects between the independent variable (practitioner characteristics, organizational characteristics) and dependent variable (implementation fidelity) despite most implementation conceptual models highlighting interactive effects. Implementation literature also alludes to implementation being a process that occurs over time; however, the majority of the studies reviewed did not employ a longitudinal research design. Therefore, the findings regarding changes over time are limited to a few studies. The study findings are summarized below according to direct effects of practitioner and organizational characteristics, interactive effects of these two factors, and impact of time on implementation fidelity.

Direct effect of practitioner and organizational characteristics. Of the studies that explored the direct effect of the independent variable on implementation fidelity, three examined practitioner and organizational factors (Allen et al., 2007; Cooke, 2000; Sanders et al., 2009) and three only explored organizational characteristics (Livet et al., 2008; Mihalic et al., 2008; Schoenwald et al., 2009). Sanders and colleagues (2009) explored the relationship between each practitioner and organizational variable and exposure (the amount of use of the program) and found that race (White), gender (women), occupational status (health or education professional), supervisory support,

adequate training, and sufficient resources were factors positively associated with exposure, whereas lack of knowledge/skills and clash with beliefs were identified as barriers to exposure. Consistent with these findings, Allen and colleagues (2007) discovered that practitioners with more positive beliefs about the value of the program, ability to perform the skills, and positive perception regarding organizational support were more likely to use/implement the program. Livet and colleagues (2008) only explored organizational factors and their relationship to implementation fidelity; however, they too found increased leadership support, adequate training, and formalized organizational climate were related to increased use of the program.

Cooke (2000) explored the impact practitioner and organizational factors have on the various stages of the implementation process and found organizational factors (i.e., climate and openness to change) predicted the early implementation stage, which was defined as use/exposure, whereas practitioner characteristics (i.e., beliefs, ability) predicted the later implementation stage, which was defined as adherence. Mihalic and colleagues (2008) and Schoenwald and colleagues (2009) also explored factors that drive implementation adherence. Although not explicitly defined, Schoenwald et al. examined whether therapists adhered to the nine principles of Multisystemic Therapy. Mihalic et al. defined adherence as the proportion of critical program objectives/activities that were taught during an observed session. Only organizational factors were explored in these two studies, which found clarity of goals, adequate resources, positive support, collaboration (Mihalic et al., 2008), job satisfaction, decreased emotional exhaustion, and opportunity for growth/advancement (Schoenwald et al., 2009) were predictive of or associated with adherence. Schoenwald and colleagues did not explore leadership

support, availability of resources, or culture, factors identified in the literature to influence implementation fidelity.

Multivariate analyses of practitioner and organizational characteristics. Five studies (Cronley & Patterson, 2010; Klimes-Dougan et al., 2009; Kantambu Latting et al., 2004; Stein et al., 2008; VanDeusen Lukas et al., 2009) explored the direct and interactive effect of practitioner and organizational characteristics on implementation fidelity. Like Sanders and colleagues (2009), Cronley and Patterson (2010) examined role of gender on use/exposure and found women reported higher levels of use; however, the more rigid or resistant to change an organization was perceived as being, the less difference there was between men and women. Klimes-Dougan and colleagues (2009) found a positive correlation between both practitioner and organizational characteristics and exposure; however, when entered into a regression model that tested both direct and interactive effects, when practitioner characteristics (extroversion, openness to change) were added to the model, the impact of organizational characteristics of job satisfaction and perceived support diminished.

Contrary to these findings, three studies (Kantambu Latting et al., 2004; Stein et al., 2008; VanDeusen Lukas et al., 2009) found support from management was significantly related to implementation adherence (degree to which the program was implemented as intended) and/or quality (how well the innovation was implemented). After controlling for practitioner characteristics (gender, race, age, employment status, years of education, length of employment in organization, work location), employee commitment to the organization was related to quality of implementation and perceived support from top management was directly related to employee commitment, suggesting

management support is critical. Stein and colleagues (2008) also found leadership support to significantly impact implementation adherence and quality. However, when the interaction between leadership support and other organizational factors (e.g., site) were added to the model, the difference in implementation adherence and quality diminished, suggesting a moderating effect. VanDeusen Lukas and colleagues (2009) found team effectiveness (staff knowledge and skills related to innovation) mediated the relationship between leadership support and levels of implementation adherence.

Change over time. The three studies that explored change in implementation fidelity over time include Henggeler et al. (2008), Gotham et al. (2010), and Zvoch (2009). All three studies found an increase in either use/exposure (Henggeler et al., 2008), adherence (Henggeler et al., 2008; Zvoch, 2009), or quality (Gotham et al., 2010) over time; however, what predicted this change varied. Henggeler and colleagues (2008) found only practitioner characteristics (increased education, increased years employed in current position, more positive attitude about intervention) predicted exposure, whereas both practitioner (younger age, men, social work degree) and organizational (higher caseloads, higher organizational readiness to change) characteristics were related to greater adherence. Gotham and colleagues (2010) also found organizational characteristics (smaller agencies, urban organizations, increased training), not practitioner characteristics, were related to quality of implementation. However, contrary to the findings from Henggeler et al. (2008), Gotham et al. found lower levels of management openness to change in 2004 led to increased quality of implementation in 2006. One thing to keep in mind when interpreting these findings is Henggeler et al. used adherence (degree to which a program was implemented as intended) as their measure of

implementation fidelity, whereas Gotham et al. used quality (how well the innovation was implemented) of implementation fidelity as their outcome variable. Adherence focuses on whether the practitioner implemented the program as prescribed; quality assesses how well the practitioner implemented the program content as measured against theoretical ideals. Similar to Henggeler et al., Zvoch (2009) measured implementation adherence over time and found larger schools/classroom size had lower initial adherence levels but this increased over time.

Study Limitations

The studies' findings differed, making generalizations regarding what is known and unknown about predictors of implementation fidelity not feasible due to the variation in the studies' innovations, target populations, design, measures, and analyses. The majority of the studies reviewed were cross-sectional, utilizing non-random samples thus limiting establishing causal relationships and generalizing outside of the study population. Although half of the studies used HLM to account for the nested nature of the data, the majority of these studies did not account for changes over time, which is inconsistent with what is known about implementation, defined as a process that occurs over time (Katz et al., 1963). Additionally, implementation is considered a complex process influenced by both practitioner and organizational factors; however, not all of the studies measured both characteristics, and of those that did, most only measured the direct effects of practitioner and organizational characteristics on implementation fidelity. Another limitation of many of these studies is that they relied on self-report data for all variables, including the dependent variable.

D. Review of Single-System Research

Single system research (SSR), also referred to as single-subject, single case, or N = 1 (Bloom, Fischer, & Orme, 2009; Nugent, 2010) has been around since the 1970s (Miller & Warner, 1975). The use of single-system research designs (SSRD) is promoted in intervention research (Bradshaw & Roseborough, 2004) because it provides a model that demonstrates accountability to practitioners, clients, community, and funding sources (Bloom et al., 2009). As Lambert (2007) noted following a meta-analysis of large-scale experimental research, formally monitoring of client progress and providing practitioner feedback as in single-system designs not only may reduce program drift, but may also positively affect overall outcomes (Bloom et al., 2009). SSRDs have been successfully applied in research clinics, hospitals, and schools (Wong, 2010). As a profession, social work has minimally utilized this approach (Bradshaw & Roseborough, 2004), and SSRDs have been less frequently used in social service agencies (Wong, 2010), primarily due to the complexity in some of the designs. This led to a call for a shift to use simpler SSRDs (Barth, 1981). The most commonly known and most simplistic SSRD is the B design that evaluates whether a system improved following the implementation of an intervention (Thyer, Artelt, & Shek, 2003). Additionally, B designs allow for in-depth descriptions of the system, examination of attribute variables, and conclusions related to specific clients/systems (Bloom et al., 2009; Miller & Warner, 1975, Nugent, 2010), which can lead to the development of individualized improvement plans.

In a search of two social work databases (Social Work Abstracts, SocINDEX), 85 SSRD articles were found, 26 of which were published within the past 10 years. The majority of the 85 articles found can be categorized as the use of SSR as a methodology

and how to implement SSR, when and how to teach SSR to undergraduate and graduate students, and clinical research studies. Of the 26 articles published since 2001, only 13 articles were empirical. Three of them (Bradshaw & Roseborough, 2004; Gaynor, Lawrence, & Nelson-Gray, 2006; Schneider & Goldstein, 2010) evaluated implementation fidelity in addition to the effectiveness of the intervention. One was a social work study. In addition, implementation fidelity was assessed over time, which is consistent with what is known about implementation being a process that occurs over time. All three studies defined implementation fidelity as the adherence to the treatment model and measured implementation fidelity as either a percentage (degree of compliance with the treatment model divided by the perfect score times 100) or competency score determined by the practitioner's score achieved on the model's level of technical competency scale that has a predetermined minimum competency score. Implementation fidelity scores were gathered through a review of case notes (Bradshaw & Roseborough, 2004; Schneider & Goldstein, 2010) or direct observations (Gaynor et al., 2006) rather than utilizing self-report methods often used in the other quantitative studies reviewed above.

Of the three studies that assessed implementation fidelity, only one (Gaynor et al., 2006) utilized a B design, whereas the other two studies employed an AB design (baseline followed by intervention). Schneider and Goldstein (2010) assessed whether the use of social stories improved the socially appropriate behavior of three children with Autism. Implementation fidelity was assessed after each session with the child and an average 98% fidelity was maintained across all sessions (ranged from 30-70 sessions for each child). During each session, the percentage of the child's on-task behavior was

collected then visually analyzed to assess changes in level, trend, overlap, and variability. Despite differences in levels (percentage of on-task behavior) across the children, the Social Stories intervention increased overall average on-task behavior from baseline. It is unknown whether the degree of implementation fidelity of the Social Stories intervention also varied across subjects as the authors reported aggregated fidelity percentages. As a result, it is unknown whether implementation fidelity had an impact on the observed outcomes.

Utilizing an AB multiple baseline design across 22 participants, Bradshaw and Roseborough (2004) evaluated the effectiveness of cognitive-behavioral treatment (CBT) on individuals with schizophrenia. Unlike Gaynor et al. (2006), Bradshaw and Roseborough assessed implementation fidelity quarterly by examining a stratified sample of cases sorted by therapist. Similarly, the quarterly fidelity scores were aggregated to obtain an overall implementation fidelity rating for each therapist. Only one practitioner did not meet the minimum level of technical competency in adhering to the CBT model. Using means of aggregate data measuring clients' symptomatology, the authors visually examined changes in trend and level between baseline and intervention phases. There was a distinct change in level (amount of symptomatology) across the phases, and a decreasing trend (direction) in pathology occurred during the intervention phase. As the data were examined at the group level, it is unknown whether differences in client pathology exist, and if so, if they are related to the variation in fidelity with which the therapists implemented CBT.

Gaynor and colleagues (2006) used a B design to assess the degree to which CBT with 10 adolescents diagnosed with depression improved homework compliance. The

tool used to evaluate implementation fidelity was completed by the therapist after each CBT session. Twenty-five percent of the completed fidelity tools were then assessed for adherence to the model. High fidelity (95%, 90%, 95%, 100%) of the specific components of CBT related to enhancing homework compliance was maintained (Gaynor et al., 2006). Although the authors explored each adolescent's homework compliance (measured during each session) separately by visually examining changes in variability and trend over time, the same was not done with implementation fidelity. It is unknown if the degree of variability found from session to session was related to any variability in the degree of implementation fidelity over time. Additionally, each adolescent experienced a decreasing trend in homework compliance, with homework compliance occurring earlier in treatment. Again, it is unknown if this decline may be related to program drift (lack of adherence to treatment model), often experienced when implementing complex innovations such as CBT (Yeaton & Sechrest, 1981).

Despite implementation fidelity being a process that occurs over time, the three SSRD studies reviewed did not consider what, if any, changes the degree of implementation fidelity may have on case outcomes over time. As a result, it was not possible to determine if the variability and trend of the outcome was related to changes in the degree of implementation fidelity. Like Gaynor and colleagues (2006), this dissertation will use a B design; however, unlike these SSRD studies, the degree of implementation fidelity will be examined over time to identify if, and when, high fidelity is reached and subsequently maintained, as this is necessary prior to evaluating case outcomes. This dissertation will also employ visual analyses, including trend, level, and variability, to examine the data.

E. Summary of Literature Review

This review highlights the importance of studying both direct and moderating effects of practitioner and organizational characteristics on implementation fidelity. In order to fully understand the implementation process, it is essential to employ a longitudinal research design. The studies reviewed defined implementation fidelity differently, with some only exploring one aspect of implementation such as use/exposure. However, to fully understand the phases of implementation, it is essential to utilize more than one way to measure implementation fidelity. Additionally, many of the studies reviewed did not utilize an objective means to measure implementation fidelity and instead relied on self-report by the practitioner. Alternative means to measuring implementation fidelity are necessary. To address the gaps in the literature, this dissertation employs a longitudinal research design, specifically a single-system research design, to examine the process of implementation fidelity over time, explore the relationship between both practitioner and organizational characteristics and implementation fidelity, and examine this phenomenon within a public child welfare agency to assess for differences between districts in implementation fidelity of a practice model.

CHAPTER THREE: METHODOLOGY

A. Study Design

This dissertation is a secondary analysis of a longitudinal study being conducted by the Atlantic Coast Child Welfare Implementation Center (ACCWIC) within the Ruth H. Young Center for Families and Children at the University of Maryland School of Social Work (SSW) in collaboration with the West Virginia Bureau of Children and Families and ACTION for Child Protection. The original study is examining how well each component of the Safety Assessment and Management System (SAMS) was implemented and which implementation strategies (NIRN implementation drivers) were most effective in promoting model fidelity, and the degree to which the quality of fidelity impacts child welfare outcomes. SAMS is a child safety management intervention modeled after ACTION's Safety Assessment Family Evaluation system (SAFE), an intervention aimed at targeting appropriate cases for child welfare intervention, strengthening service delivery to families, and improving safety outcomes for children. The research questions that guide this dissertation research go beyond the original study of the implementation of SAMS in West Virginia by examining the relationship between practitioner and organizational factors and the degree of implementation fidelity.

Safety Assessment Management System

Like many child welfare agencies, the West Virginia Department of Health and Human Resources Bureau for Children and Families is shifting from an exclusive risk assessment model to an integrated decision-making approach to assessing child safety. They are partnering with ACTION for Child Protection and the National Resource Center for Child Protective Services (NRCCPS) to implement a new practice model across the

state. The new practice model, Safety Assessment and Management System (SAMS), is modeled after the ACTION for Child Protection's Safety Assessment Family Evaluation system (SAFE), which is a comprehensive assessment and intervention approach based on six practice components that results in decisions identifying how families are moved through the CPS process (Holder, Costello, Holder, & Roe Lund, 2000). Theoretically based, SAFE's key practice concepts include Caregiver Protective Capacities (Holder, 2003), Impending Danger (Allen, 1988; Holder, 2004a), Well-Being, Permanency, Family Centered Practice, Self Determination, Mutuality, The Trans-Theoretical Model (TTM) (Prochaska, Di Clemente, & Norcross, 1992), Solution-Based Intervention (Berg, 1994), The Involuntary Client (Rooney, 1992), and Systematic Safety Intervention Process (Holder, 2004b). Wherever implemented, the SAFE model is consistent with modifications related to the integration of jurisdiction-specific policies.

This new practice model emphasizes a family-centered approach to improve caregiver and family functioning and increase child safety, permanency, and well-being. It is a comprehensive assessment and safety management process beginning at intake and ending with case closure. The focus is on the utilization of a structured assessment protocol to assess impending danger and potential mitigating protective factors. This systematic approach to assessment is a paradigmatic shift from a risk model to a safety model as the goal of this assessment is to determine whether the child is unsafe and in need of ongoing services from the public child welfare agency, not just to determine if the abuse and/or neglect occurred. Workers utilize critical thinking skills to complete four assessments, which result in decisions that move families through the CPS process. The first assessment, an Intake Assessment, requires the gathering of sufficient and

relevant information to determine whether reasonable cause exists to suspect child abuse and/or neglect.

Within this first phase of the model, SAMS is directed toward determining which children and families CPS should serve based on the existence of child safety threats and a lack of caregiver protective capacities to protect against these threats. Therefore, staff members are trained in how to identify safety threats to children and the presence of protective capacities to mitigate those threats. The emphasis is on understanding family conditions that may or may not exist that impact child safety, rather than focusing exclusively on whether child maltreatment occurred. If child safety threats are identified, void of necessary caregiver protective factors, then a subsequent safety plan is developed that identifies how the child will be kept safe from further abuse/neglect. When children are determined to be unsafe, safety plans and safety services are implemented to control the presence of safety threats. To aid them in the process, each staff completes two forms at intake: the Intake Assessment Form (IA), and the Family Functioning Assessment Form (FFA) to guide the analysis of safety threats and protective capacities. The goal of SAMS is to ensure accurate and consistent decision-making at key points in the CPS process that ensures child safety and only those families at-risk for abuse and/or neglect continue to receive services. An assessment of safety threats occurs during initial contact with the family, at conclusion of the investigation process, at case transfer, during caseworker contacts with the family, and at case closure.

Ensuring accurate and consistent decision-making in safety assessment standardizes child welfare practice across the state and places an emphasis on safety and protective factors rather than on family compliance and cooperation, which perpetuates a

risk-focused model. Additionally, refocusing CPS on safety may minimize the unnecessary intrusion into the lives of families as only those families identified as unsafe will receive ongoing services. Further, identifying protective factors to mitigate identified safety threats may reduce repeat maltreatment rates, which, in West Virginia, are higher than the national average. During the 2008 Child and Family Service Review, West Virginia performed poorly on safety outcomes. The national standard for absence of child maltreatment recurrence within 6-months from initial contact with a family is 94.6%, and from 2005 to present, West Virginia has failed to meet this standard, with the most recent (2009) rate being 91.5% (Child Maltreatment, 2009).

Across the state of West Virginia, in 2009, 50,280 children were investigated by CPS. As a result, SAMS was implemented with the intent that SAMS will positively impact child safety as workers will be better trained to identify safety threats and a lack of necessary caregiver protective capacities. This information will guide the workers in determining whether the child is unsafe and a safety plan is necessary to address those identified safety threats. This also ensures only those families deemed unsafe will receive ongoing services from the public child welfare agency. Those factors contributing to the safety threat to the child will be identified so the ongoing services provided to the family can be individualized.

The efficacy of SAFE has empirical support. Anne Arundel County, Maryland pilot tested the safety assessment and safety planning components of SAFE and found a 29% reduction in the rate of placement of maltreated children, as well as an absence of child maltreatment recurrence in 100% of the children with a safety plan (Allen, 1988). In Milwaukee, the Bureau of Child Welfare designed and implemented a practice model

based on SAFE. A recent review of this program found only 2% of families experienced another referral to the child welfare agency within one year following services (Happach, 2010).

To ensure effective implementation of the practice model, West Virginia utilized the National Implementation Research Network's (NIRN) implementation framework (Fixsen et al., 2008), which identifies specific implementation drivers (selection, training, coaching, performance assessment, systems intervention, facilitative administration, and decision support/data support) that lead to implementation fidelity. Although all CPS workers implemented SAMS, West Virginia *selected* a group of program managers, supervisors, and trainers to be the primary purveyors of the practice model and responsible for building the competence of staff and supervisors. These purveyors received *training* on the practice model from NRCCPS/ACTION for Child Protection who continued to provide technical assistance to the purveyors as they trained, mentored, and guided staff within the county child welfare agencies. *Coaching* was a major focus of the implementation process, which involved building the knowledge, skills, and abilities of CPS supervisors during the first few months of implementation so that they could continue to assist their staff in making accurate case decisions after the purveyors left. *Performance assessment* occurred over time with a focus on consultation, supervision, and quality improvement to ensure implementation fidelity, which was assessed through the use of a standardized case review instrument. Ongoing activities such as meetings with key internal (e.g., managers, supervisors, staff) and external (e.g., court system, educational system, service providers) stakeholders were instituted to provide initial feedback on monthly implementation fidelity rates in order to promote the

practice model and increase *buy-in for SAMS*. In order to *facilitate* the administration of SAMS, policies and procedures were changed to align with SAMS, such as restructuring staff assignments at the local level, implementing a Steering Team to address barriers to implementation, and conducting pre-implementation meetings with supervisors and administrators. In consultation with ACCWIC, practice relevant fidelity data such as the percentage of specific elements of the practice model being implemented with fidelity were collected to *inform implementation* and to target ongoing coaching and technical assistance to improve performance.

B. Participants and Recruitment

All 55 counties in West Virginia implemented the SAMS; however, the practice model was rolled out incrementally across the state. The intervention was implemented in two phases. The first phase focused on safety assessment and management through accurate identification of safety threats and protective factors, and provision of safety services as outlined in a safety plan, if necessary. The second phase focused on change oriented services that address the behaviors and conditions related to the safety threats identified during Phase One. This dissertation addresses implementation of the first phase of the practice model, thereby evaluating whether safety assessment and safety management, which includes the practitioners' degree of implementation fidelity of SAMS, improved over time.

Although some families exposed to Phase One of the practice model were exposed to elements of Phase Two (i.e., the case is accepted for ongoing child welfare services), the primary goal of Phase One was to ensure the accurate identification of safety threats that may lead to future maltreatment, which was accomplished through the

completion of the Family Functioning Assessment (FFA), and subsequent development of a safety plan when a child was deemed unsafe. To assess the degree to which practitioners implemented Phase One of SAMS, a single-system research design was employed to track implementation fidelity over time.

There are 29 districts within West Virginia, each comprising one or more counties. Districts were divided into three groups as implementation of the first phase of the practice model was staged over 7 months across these groups, beginning in November, 2009 and ending in June, 2010. For the purpose of this dissertation, a subset of group one districts, those districts that implemented the practice model first, were examined. Group one comprised six districts. These districts were identified by the West Virginia Bureau of Children and Families as the jurisdictions most ready to implement a new intervention based on case backlog and staff experience. However, for the purpose of this dissertation, due to available data (not every district completed monthly fidelity reviews), only three districts were explored ($N = 3$). To protect the identity of the districts, the following labels will be used to distinguish the three: District A, District B, and District C.

C. Data Collection Procedures

Figure 3 provides a visual summary of the data collection process. The original study used an online self-administered survey to collect data from agency staff at two points in time. Prior to front-line staff receiving initial training on the practice model and again two months later, they were sent, via email, a link to access the surveys. The data collected at these points were not the same. One month prior to implementing SAMS, the staff within each district were emailed a link to complete, through an online survey

program (Qualtrics), the Organizational Readiness for SAMS Implementation Survey comprising the Readiness for Organizational Change scale, demographic questions related to their work position, and open-ended questions seeking feedback on concerns about implementing SAMS and additional supports or information needed. The survey link was sent to the purveyors who then sent the link to the districts who passed it onto the supervisors who were responsible for distributing it to their employees. The number of staff who completed the survey within each district ranged from 1-26 (see Table 1). One month after implementation of SAMS, the staff within each district were sent a URL link to complete the Organizational Climate Scale via Qualtrics. This scale measured staff members' attitudes toward SAMS implementation, as well as perceived organizational barriers to implementation. The number of staff who completed this survey within each district ranged from 5-12 (see Table 1).

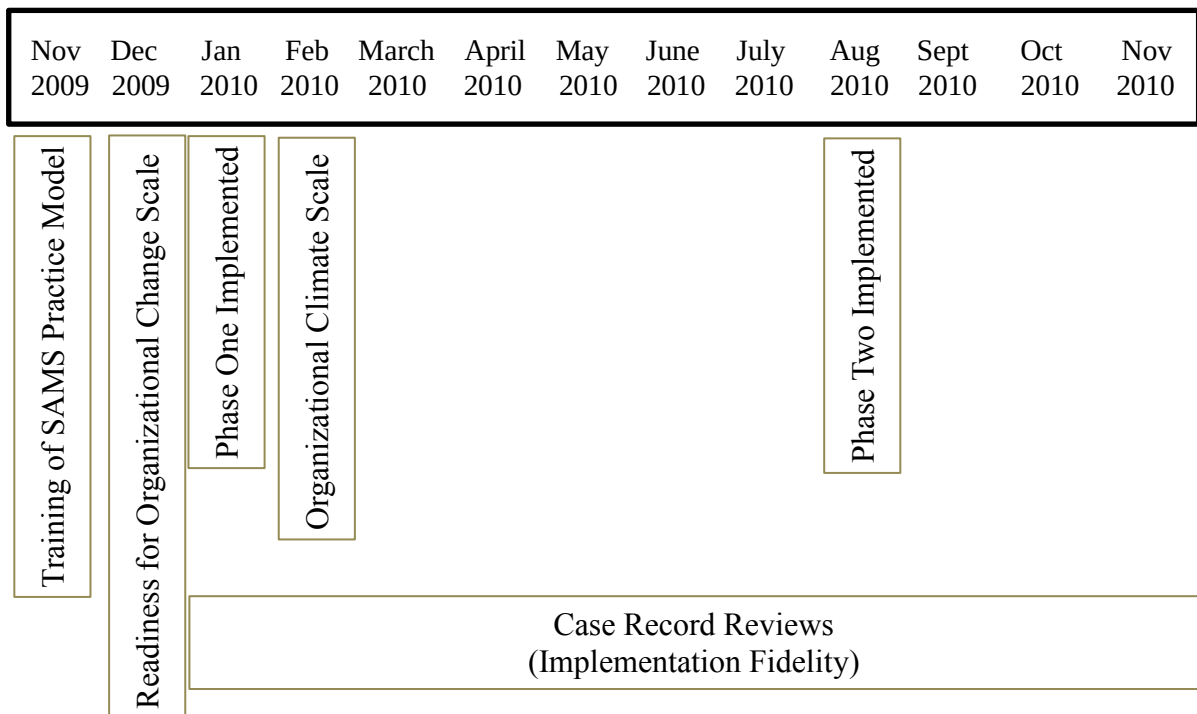


Figure 3. Data Collection Procedure

Table 1

Staff per District Completing each Survey

District	Readiness for Organizational Change Scale	Organizational Climate Survey
District A	26	12
District B	1	5
District C	3	7

Administrative data, specifically the Family Functioning Assessment Fidelity Review measure, was used to measure the degree to which the practice model was implemented with fidelity. When and how these data were collected are outlined below. The secondary data analysis of this dissertation used the independent and dependent variables described in the next section to answer the following research questions:

1. What are the organizational characteristics of each district as reported by the staff?
 - a. Is there a difference between districts in practitioners' perceived need for the safety management practice model?
 - b. Is there a difference between districts in practitioners' perceived capability to implement the safety management practice model?
 - c. Is there a difference between districts in practitioners' perception of management support of the safety management practice model?
 - d. Is there a difference between districts in practitioners' perception of personal benefits from the safety management practice model?

- e. Is there a difference between districts in practitioners' perception of the organization's ability to implement the safety management practice model?
- 2. What is the degree of implementation fidelity over an 11 month time period within each district?
 - a. Is there a change in the degree of implementation fidelity throughout this time within each district?
 - b. At what point throughout this time are the districts most likely to achieve high degree of implementation fidelity?
 - c. Is there a difference between districts in the degree of implementation fidelity?
- 3. Is there a difference between districts in implementation fidelity of the SAMS practice model?
 - a. In which areas of Phase One of the Safety Assessment Management System (SAMS) practice model do the districts differ?

D. Measures

Implementation Fidelity

Implementation fidelity was determined by a fidelity score of the Family Functioning Assessment (FFA) Fidelity Review measure in order to measure the degree to which specific components of the SAMS practice model were implemented as intended. This dissertation measured implementation fidelity as a fidelity percentage, which was *the degree to which agency staff adhered to the use of the SAMS practice model*.

Following implementation of the practice model, a convenience sample of active intake and initial assessment cases at the time of the review was selected each month post implementation for assessment of fidelity, initially by the purveyors then subsequently by the trained supervisors. These cases were selected by the purveyor/supervisor completing the fidelity review. The purveyors were a select group of staff members in each region of the state who were trained and coached by ACTION, the developers of the practice model. Additionally, at least one purveyor from each region was involved in the development of the fidelity tool.

The FFA fidelity tool (see Appendix B) assessed components of the SAMS practice model leading to safety decisions (safe or unsafe) and whether to open the family for ongoing in-home or out-of-home services. Four construct areas were measured on the FFA fidelity tool. These included Information Collection, Temporary Protection, Safety Decision, and Safety Planning. Information Collection assessed how well agency staff collected adequate information needed to make appropriate decisions about the case. Temporary Protection assessed whether staff members accurately identified present danger and implemented a sufficient temporary protection plan to control for the threats identified. Safety Decision was how well agency staff identified adequate information for the case, particularly impending danger threats and whether the staff members documented the essential enhanced caregiver protective capacities, whereas Safety Planning assessed whether staff members' developed safety plan was necessary and if so, if it addressed the identified threats.

Reliability of the fidelity tool was assessed through discrepancy analysis, which was based on the percent agreement in responses among the raters completing the FFA

Fidelity Review measure. The findings revealed a 95% agreement for the FFA (Kaye & Osteen, in press). Inter-rater reliability was also assessed using Krippendorff's alpha, a preferred method with multinomial data and more than two raters; values above .40 are considered good (Krippendorff, 1987). Inter-rater reliability for the FFA fidelity measure had high to low inter-rater reliability: Temporary Protection ($\alpha = .90$), Safety Planning ($\alpha = .81$), Safety Decision ($\alpha = .80$), Information Collection ($\alpha = .26$), overall FFA fidelity tool ($\alpha = .81$). Chi-square tests revealed no significant difference between the purveyors' and supervisors' fidelity ratings (Kaye & Osteen, in press).

The total number of cases reviewed each month varied across the districts (see Table 2). In some months, the districts failed to review case records to assess implementation fidelity. The cases reviewed were screened for adherence to the practice model using the above mentioned fidelity review tool that was completed by either the purveyor or the trained supervisor and identified whether the applicable components of the practice model (specifically the FFA) were assessed and/or completed as prescribed based on criteria established by ACTION. The fidelity reviews were completed online using Qualtrics, an internet survey software.

The level of adherence for each case was then scored by the ACCWIC research team by summing the number of components on the case record review correctly completed as intended and dividing these numbers by the total number of valid components applicable to that case times 100 to yield an implementation fidelity percentage ranging from 0 to 100. Within each district, the implementation fidelity percentages across all cases reviewed within a month were also aggregated to obtain the average monthly *degree of implementation fidelity percentage*. Each month's *degree of*

implementation fidelity percentage represents the average degree to which the organization's employees used the practice model as intended. As suggested by Perepletkhikova and Kazdin (2005), 80% and above was considered high implementation fidelity. Although Perepletkhikova and Kazdin suggest medium implementation fidelity as 50% to 80%, the ACCWIC researchers used 60% to 79% as the cut-off for medium implementation fidelity to establish a more rigorous implementation standard. When interpreting results, this dissertation also used the medium criteria established by the ACCWIC. As a result, low implementation fidelity was adherence less than 60%. The organization monthly fidelity percentages were used to answer all aspects of research question two (What is the degree of implementation fidelity over time within each district?). The implementation fidelity percentages for each case reviewed across all three districts were used to answer both parts of research question three (Is there a difference between districts in implementation fidelity of the SAMS practice model?).

Table 2

Case Records Reviewed (FFAs) by Month per District

District	Dec 2009	Jan 2010	Feb 2010	March 2010	April 2010	May 2010	June 2010	July 2010	Aug 2010	Sept 2010	Oct 2010	Nov 2010	Total
District A	0	29	0	0	0	0	1	3	8	5	4	0	50
District B	0	20	6	3	1	3	0	2	0	0	1	7	44
District C	0	21	6	3	0	3	1	2	0	1	0	5	42

Readiness for Organizational Change Scale

The Readiness for Organizational Change scale (see Appendix C) gauges an organization's readiness for change at the individual level (Holt, Armenakis, Feild, &

Harris, 2007). Based on theory about the change process, this scale measures the relationship between the content (i.e., what is being changed), the process (i.e., how the change is being implemented), the context (i.e., circumstances under which the change is occurring), and the individuals (i.e., characteristics of those being asked to change) involved (Holt et al., 2007).

The 25-item scale consists of four subscales: Appropriateness ($\alpha = .94$), Management Support ($\alpha = .87$), Change Efficacy ($\alpha = .82$), and Personal Valence ($\alpha = .66$) (Holt et al., 2007). Appropriateness subscale comprises 10 items, Change Efficacy and Management Support comprise 6 items each, and Personal Valence subscale comprises 3 items. The subscales measure employees' beliefs that they are capable of implementing a proposed change (Change Efficacy), the proposed change is appropriate for the organization (Appropriateness), the leaders are committed to the proposed change (Management Support), and the proposed change is beneficial to organizational members (Personal Valence) (Holt et al., 2007). All scale items use a 7-point response format ranging from 1 = *strongly disagree* to 7 = *strongly agree*; therefore, the higher the score, the higher the level of agreement that their organization is ready for change. The individual staff scores on each subscale were averaged to generate district scores. Thus, four subscales were included in the analysis to answer aspects of research question one (Is there a difference between districts in practitioners' perceived need for the safety management practice model?, Is there a difference between districts in practitioners' perceived capability of implementing the safety management practice model?, Is there a difference between districts in practitioners' perception of management support of the safety management practice model?, Is there a difference between districts in

practitioners' perception of personal benefits from the safety management practice model?).

Organizational Climate Scale

Staff perceptions regarding their organization's climate were measured using a scale created by Fixsen and colleagues (2008). Their 30-item scale (see Appendix D) is an adaption from the work of Klein and Sorra (1996), Panzano and colleagues (2004), and Panzano and Roth (2006). Specifically borrowing from a survey created by Panzano and Roth (2006), which incorporated components of the scales created by Klein and Sorra and Panzano and colleagues, in a study they conducted to measure mental health providers' perceptions of their organization's readiness to adopt evidence-based or research-guided practices, Fixsen and colleagues developed the scale used in this dissertation. The original scale by Panzano and Roth consisted of items tapping into three constructs related to the decision to adopt an innovation. These constructs were labeled Perceived Risk (related to perceived benefits, utility, evidence, and relative advantage of the innovation), Risk Propensity (related to the tendency of individuals or organizations to be innovative), and Risk Management Capacity (related to the complexity, cost, ease of use, amenability, and compatibility of the innovation). Reliability of the scale developed by Panzano and Roth was established using Cronbach's alpha: Perceived Risk ($\alpha = .81$), Risk Propensity ($\alpha = .90$), and Risk Management Capacity ($\alpha = .92$). The validity and reliability of the items on the adapted scale have not been tested.

All items on the original and the adapted scale, used in this study, were measured using a 7-point Likert response format ranging from 1 = *strongly disagree* to 7 = *strongly*

agree. Individual staff scores were averaged to generate district scores. District scores were used to answer aspects of research question one (Is there a difference between districts in practitioners' perception of the organization's ability to implement the safety management practice model?).

Internal Reliability of Surveys

Cronbach's alpha was used to calculate internal consistency reliability for the Readiness for Organizational Change and Organizational Climate Scale. Negatively worded items on each survey were first reverse coded so that higher numbers indicated stronger agreement with the statement. Listwise deletion was used so only cases with valid data for all the items in the subscale were retained for the calculation. This resulted in a deletion of 0% to 16.7% of cases. Despite listwise deletion creating a reduction in sample size, Cronbach's alpha is not affected by sample size (Duhachek & Iacobucci, 2004).

Within this dissertation, all subscales, Appropriateness ($\alpha = .93$), Management Support ($\alpha = .93$), Change Efficacy ($\alpha = .80$), and Personal Valence ($\alpha = .70$) yielded Cronbach's alphas above the recommended cutoff of .70 (de Vaus, 2002). The Organizational Climate Scale yielded an overall Cronbach's alpha of .94. Table 3 reports Cronbach's alphas for each scale, and where available, the original alphas obtained from the purveyors of the scale.

Table 3***Comparison of Scale Reliabilities****

Scale	Current Study	Original
	α	α
Readiness for Organizational Change*		
Appropriateness	.93 (<i>N</i> = 30)	.94 (<i>N</i> = 264)
Management Support	.93 (<i>N</i> = 30)	.87 (<i>N</i> = 264)
Change Efficacy	.80 (<i>N</i> = 30)	.82 (<i>N</i> = 264)
Personal Valence	.70 (<i>N</i> = 30)	.66 (<i>N</i> = 264)
Organizational Climate	.94 (<i>N</i> = 20)	-

***Note.** Original reliability testing was not done on the Organizational Climate scale.

E. Data Analysis

As practitioners acquire skills and abilities at different rates over time (Fixsen et al., 2009), it is necessary to measure and analyze change in implementation fidelity over time as new practice models gradually become part of everyday practice. Detecting the degree to which innovations are implemented with fidelity across time, therefore, is central to implementation studies (Crea et al., 2009b). Outlined below are the specific analyses employed to answer each of the research questions (see Table 4).

Research question one. What are the organizational characteristics of each district as reported by the staff? Utilizing descriptive statistics, workers' perceptions of their capability to implement the innovation, attitude toward the innovation, and potential benefit of the innovation, as well as their perception of the organization's openness to change, the innovation's consistency with agency norms, and the organization's availability of resources as measured through the Readiness for Organizational Change and Organizational Climate Scales were examined within and across the districts. To assess any statistically significant difference between districts in organizational readiness

to change and organizational climate, Kruskal-Wallis non-parametric statistical tests were performed.

Research question two. What is the degree of implementation fidelity over time within each district? A Single System Research Design (SSRD), specifically a case study (B1-B2) design (Bloom, Fischer, & Orme, 2009) was employed to answer aspects of this research question within the three districts explored for this dissertation. Due to the small sample size and few data points, SSRD was the optimal methodology for this research question (Bloom et al., 2010; Nugent, 2010). The *B* design is often used by organizations to measure staff performance and identify if and when continuing staff development is warranted (Bloom et al., 2010; Nugent, 2010). The *B* design used to answer this question will allow for assessment of if and when staff members are implementing the SAMS practice model as intended. Further, the visual methods employed in SSRDs ensured a conservative interpretation of the findings as only large or obvious effects observed were recognized (Nugent, 2010).

The intervention or implementation phase (designated B1) comprised implementation fidelity percentages between January and July, 2010. B2 represented the sustainability of Phase One of SAMS, as well as considering the impact, if any, Phase Two of the SAMS practice model had on implementation fidelity percentages. This phase lasted from August through November, 2010.

Remaining consistent with traditional approaches to analyzing SSRD data, the following visual approaches were employed to answer aspects of research question two: (1) level, (2) trend, (3) variability, (4) overlap, and (5) mean (Nugent, 2010). Level refers to the degree of implementation fidelity at a given point in time. To assess change

between phases, the last fidelity percentage in B1 was compared to the first fidelity percentage in B2 phase. The more instantaneous the change, the more likely it is that a change in degree of implementation fidelity across time exists (Shadish et al., 2002). To identify the rate of change in the degree of implementation fidelity over time, the trend line, utilizing the ordinary least squares (OLS) regression line, within each phase was superimposed to determine if the fidelity percentages were decreasing, increasing, or remaining constant over time (Nugent, 2010). It is possible to observe an increase in implementation fidelity rates over time due to the varying skills of individual staff, as well as the unique characteristics of the organization's culture within each district.

In order to assess for this potential systematic (i.e., practitioner and organizational factors) and nonsystematic (random) variability, the range of variation in implementation fidelity percentages within each phase was compared against the trend line to assess whether, and what amount of, the variability was associated with systematic or nonsystematic variation. The range of variability within each phase was compared to the adjacent phase to assess for any overlap in the ranges of implementation fidelity percentages between the adjacent phases. Therefore, the greater the area of non-overlap between the phases, the more likely it was that a difference in implementation fidelity percentages existed (Nugent, 2010).

The final visual analysis examined a change in mean implementation fidelity percentages across the phases. The Wilcoxon Matched Pair Signed Rank Test, a nonparametric statistical analysis used in lieu of paired sample *t*-test due to violating the statistical assumption of normality, which typically occurs in sample sizes less than 30 (Norusis, 2006), was performed. Additionally, a Kruskal-Wallis nonparametric statistical

test was performed to assess whether a statistically significant mean difference in implementation fidelity exists across the three districts.

Research question three. Is there a difference between districts in implementation fidelity of the SAMS practice model? A three level categorical variable was created to represent the three districts (1 = District A, 2 = District B, 3 = District C). A One-Way ANOVA was conducted to identify whether a difference in implementation fidelity of SAMS existed between these three districts. To tease out which constructs of the FFA (Information Collection, Temporary Protection, Safety Decision, Safety Planning) the districts differed, a MANOVA was conducted.

Prior to interpreting the results from the ANOVA/MANOVA analyses, the following assumption checking was done: independence of observations, multivariate normality, and homogeneity of covariance matrices. Following a statistically significant ANOVA, Tukey post hoc analysis was conducted to identify differences between the pairs of districts. A MANOVA was performed for the second part of this research question rather than conducting four separate ANOVAs in order to control for Type I error (Stevens, 2002). A MANOVA first examines the set of dependent variables in order to detect slight differences between the districts prior to conducting post hoc tests. As suggested by Stevens (2002), following a statistically significant F test, Hotelling's T^2 discriminant function analysis was the post hoc procedure used to first test for differences between the pairs of groups (districts) on the set of dependent variables. Separate t -tests were conducted for each statistically significant pair to identify on which construct area of the FFA the districts differed. To control for Type I error, Bonferroni correction was

used to adjust the alpha level based on the number of *t*-tests performed (Stevens, 2002).

This new alpha level was used when interpreting significance in *t*-tests.

Table 4***Data Analysis Plan***

Research Question	Variables	Analysis	Unit of Analysis	Sample Size
1. What are the organizational characteristics of each district as reported by the staff?	Readiness for Organizational Change and Organizational Climate Scales	Descriptive	Organization	3
1a. Is there a difference between districts in practitioners' perceived need for the safety management practice model?	Readiness for Organizational Change and Organizational Climate Scales	Kruskall-Wallis	Organization	3
1b. Is there a difference between districts in practitioners' perceived capability of implementing the safety management practice model?	Readiness for Organizational Change and Organizational Climate Scales	Kruskall-Wallis	Organization	3
1c. Is there a difference between districts in practitioners' perception of management support of the safety management practice model?	Readiness for Organizational Change and Organizational Climate Scales	Kruskall-Wallis	Organization	3
1d. Is there a difference between districts in practitioners' perception of personal benefits from the safety management practice model?	Readiness for Organizational Change and Organizational Climate Scales	Kruskall-Wallis	Organization	3
1e. Is there a difference between districts in practitioners' perception of the organization's ability to implement the safety management practice model?	Readiness for Organizational Change and Organizational Climate Scales	Kruskall-Wallis	Organization	3
2. What is the degree of implementation fidelity over time within each district?	Implementation Fidelity	SSRD (visual analysis)	Organization	3
2a. Is there a change in the degree of implementation fidelity over time within each district?	Implementation Fidelity	SSRD (visual analysis); Wilcoxon Matched Pair Signed Rank Test	Organization	3
2b. What point in time are the districts most likely to achieve implementation fidelity?	Implementation Fidelity	SSRD (visual analysis)	Organization	3
2c. Is there a difference between districts in the degree of implementation fidelity?	Implementation Fidelity	Kruskal-Wallis	Organization	3
3. Is there a difference between districts in implementation fidelity of the SAMS practice model?	Implementation Fidelity; district variable	ANOVA	Case	134
3a. Which areas of Phase One of the practice model do the districts differ?	Implementation Fidelity (4 constructs); district variable	MANOVA	Case	134

CHAPTER FOUR: RESULTS

As explained in the previous chapter, data for this dissertation came from three districts in West Virginia that implemented SAMS during Phase One, which began staff training in November, 2009. The results are presented below, including key characteristics at the individual and district level, internal reliability of each survey used, descriptive statistics, findings from the SSRD analyses that explored the change in implementation fidelity over time within each district, and results from the multivariate analyses exploring differences between districts in implementation fidelity of the SAMS practice model.

A. Characteristics of the Respondents in the Sample

Of the 30 respondents, across all three districts, who completed the Readiness for Organizational Change Scale, 23 (76.67%) held direct casework positions within the agency, 2 (6.67%) were supervisors, and 4 (13.33%) were administrators or held other social service positions. One individual chose not to respond to this question. Nineteen (63.33%) worked in intake or child protective services, nine (30%) worked in ongoing services, and two (6.67%) worked in other areas, such as administration.

Twenty-four respondents, across all three districts, completed the Organizational Climate Scale. Of these respondents, 16 (66.67%) were direct caseworkers, 5 (20.83%) were supervisors, and 3 (12.50%) were administrators. As for program area, 15 (62.50%) worked in intake or child protective services, 6 (25%) worked in ongoing, and 3 (12.50%) worked in other social service areas, such as administration. Table 5 depicts the individual characteristics within each district for each survey.

Table 5***Respondent Characteristics for each Survey across each District***

Survey	District A		District B		District C	
Readiness for Organizational Change Scale	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Position						
Direct Worker	21	84.00%	1	100%	1	33.33%
Supervisor	2	8.00%	-	-	-	-
Administrator	2	8.00%	-	-	2	66.67%
Program Area						
Intake/CPS	17	65.38%	-	-	2	66.67%
Ongoing	8	30.77%	1	100%	-	-
Other	1	3.85%	-	-	1	33.33%
Organizational Climate Scale						
Position						
Direct Worker	9	75.00%	4	80%	3	42.86%
Supervisor	2	16.67%	1	20%	2	28.57%
Administrator	1	8.33%	-	-	2	28.57%
Program Area						
Intake/CPS	8	66.67%	4	80%	3	42.86%
Ongoing	3	25.00%	1	20%	2	28.57%
Other	1	8.33%	-	-	2	28.57%

B. Characteristics of the Districts in the Sample

West Virginia Department of Health and Human Resources (WVDHHR) Bureau for Children and Families is a state run agency operating under the general direction of the Governor. A Commissioner is appointed to oversee the child welfare organization. There are four Regions in West Virginia. The Districts examined in this dissertation come from Regions II and IV. Across the state, referral backlogs were pervasive and led to increased workloads. In May, 2011, District A was among the top five counties in the state with the largest investigation workload, new referrals, and investigations closed (see

Figure 4). Compounding this problem was staff turnover. In 2007, across the state, the annual turnover rate for CPS Supervisors was 10.25%, for CPS Trainees was 32.5%, and for CPS Workers was 32.38% (WVDHHR, 2008). More than a quarter (28.5%) of CPS workers had less than one year's experience (WVDHHR, 2008). To address recruitment and retention problems in CPS, a differential pay grade was established to recruit and retain quality workers for CPS; however, what it created was decreased staff morale in the other units (WVDHHR, 2008). As previously stated, maltreatment recurrence rates across the state are high, rising above the standard federal recurrence of maltreatment rate of 6.1% or less.

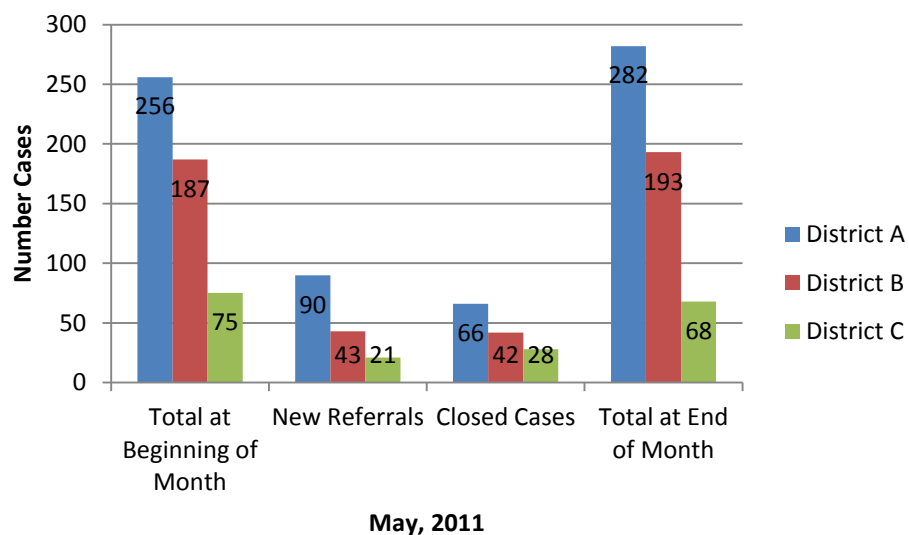


Figure 4. Investigation Workload across Districts

C. Descriptive Statistics

To answer research question one, data from the Readiness for Organizational Change and Organizational Climate Scales were used. The Readiness for Organizational Change Scale comprises four subscales: *Appropriateness*, *Management Support*, *Change Efficacy*, and *Personal Valence*; there is no overall scale score (Holt et al., 2007).

Across all three districts, a total of 30 employees completed the survey. The average subscale scores among these employees was 5.471 ($SD = .914$) for Appropriateness, 5.494 ($SD = .956$) for Management Support, 5.161 ($SD = .930$) for Change Efficacy, and 5.524 ($SD = 1.060$) for Personal Valence. Across each district, these values did not change much (see Table 6). A Kruskal-Wallis non-parametric statistical test was performed to assess for any significant difference between the districts in organizational readiness for change based on various practitioner characteristics defined by the Readiness for Organizational Change Scale. No statistically significant difference was found between the districts.

Table 6

Mean Scores for Readiness for Organizational Change Subscales

Subscale	All Districts			District A			District B			District C		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Appropriateness	28	5.471	.914	25	5.436	.949	0	-	-	3	5.767	.577
Management Support	27	5.494	.956	23	5.478	1.013	1	4.833	-	3	5.833	.441
Change Efficacy	30	5.161	.930	26	5.167	.978	1	4.667	-	3	5.278	.674
Personal Valence	28	5.524	1.060	24	5.472	1.103	1	6.333	-	3	5.667	.882

Table 7 presents the average scores for the Organizational Climate Scale across and within each district. As with the Readiness for Organizational Change Scale, the possible mean scores range from 1.00 to 7.00, with higher scores indicating stronger agreement with the statement. The average scale score for the 24 employees across the three districts who completed the survey was 4.788 ($SD = .841$). Again, to test for any statistically significant difference between the districts, a Kruskal-Wallis non-parametric test was performed. No statistically significant difference in organizational climate between the districts was found.

Table 7

Mean Scores for Organizational Climate Scale

	All Districts			District A			District B			District C		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Organizational Climate	20	4.788	.841	11	4.909	.642	4	4.108	1.423	5	5.067	.454

D. Single-System Research Design

The *B* design was used to interpret the change in implementation fidelity percentages across time within each district, which is research question two. The time period under observation was Phase One of the implementation of the SAMS practice model, which began training employees in November, 2009. Baseline implementation fidelity scores were not available as neither district reviewed FFAs completed prior to January, 2010, the date when intake/CPS employees began implementing the SAMS practice model. To assess whether Phase Two of SAMS practice model (representing phase B1 on the graphs), which was implemented in August, 2010, influenced the degree

of implementation fidelity of Phase One of SAMS (representing phase B on the graphs), the following visual analyses were performed: changes in level, changes in trend, changes in variability, degree of overlap, and changes in phase mean. In general, caution must be used when interpreting change in implementation fidelity as it was possible that the cases reviewed each month represent different staff members and reviewers, both of which may partially account for the changes in fidelity over time.

Changes in Level

The level refers to the value of the dependent variable (in this study, the implementation fidelity score) at a given point in time (Nugent, 2010). To assess if a change in level occurred once Phase Two of SAMS was implemented, the last implementation fidelity percentage in phase B is compared to the first implementation fidelity percentage in phase B1. Figure 5 illustrates the change in level of implementation fidelity across the B (Phase One)-B1 (Phase One and Two) phases within each district. In District A, the level of implementation fidelity at the beginning of Phase One of SAMS implementation (B) was 57%, whereas the level of implementation fidelity at the final observation prior to implementing Phase Two of the SAMS practice model was 99%. Following the implementation of Phase Two of SAMS (B1), the first implementation fidelity percentage was 87%. The difference between these levels (last observation point in B and first observation point in B1), a 12% decrease in implementation fidelity, represents the change in level across these two time periods. The change is not immediate or instantaneous (values do not change fidelity categories across phases), as both data points (99%, 87%) represent high implementation fidelity; it

is unlikely Phase Two is impacting implementation fidelity of Phase One of SAMS (Shadish et al., 2002).

The level of implementation fidelity at the beginning of phase B, in District B, was 61% (see Figure 5). At the end of phase B, the level of implementation fidelity was 48%. The first observation point subsequent implementation of Phase Two of SAMS yielded an implementation fidelity percentage of 0%, thus there was a 48% decrease in level of implementation across the B-B1 phase; however, both fell within the low degree of implementation fidelity.

District C yielded a 53% implementation fidelity percentage at the beginning of Phase One of SAMS implementation (B) and an 83% implementation fidelity percentage at the final observation point in phase B. The initial observation point after adding Phase Two of SAMS (B1) yielded an 87% implementation fidelity percentage, a 4% increase in level of implementation fidelity. However, as the change in level across these time periods is not immediate (both data points represent high implementation fidelity), Phase Two of SAMS is unlikely to have impacted the fidelity scores of Phase One of SAMS.

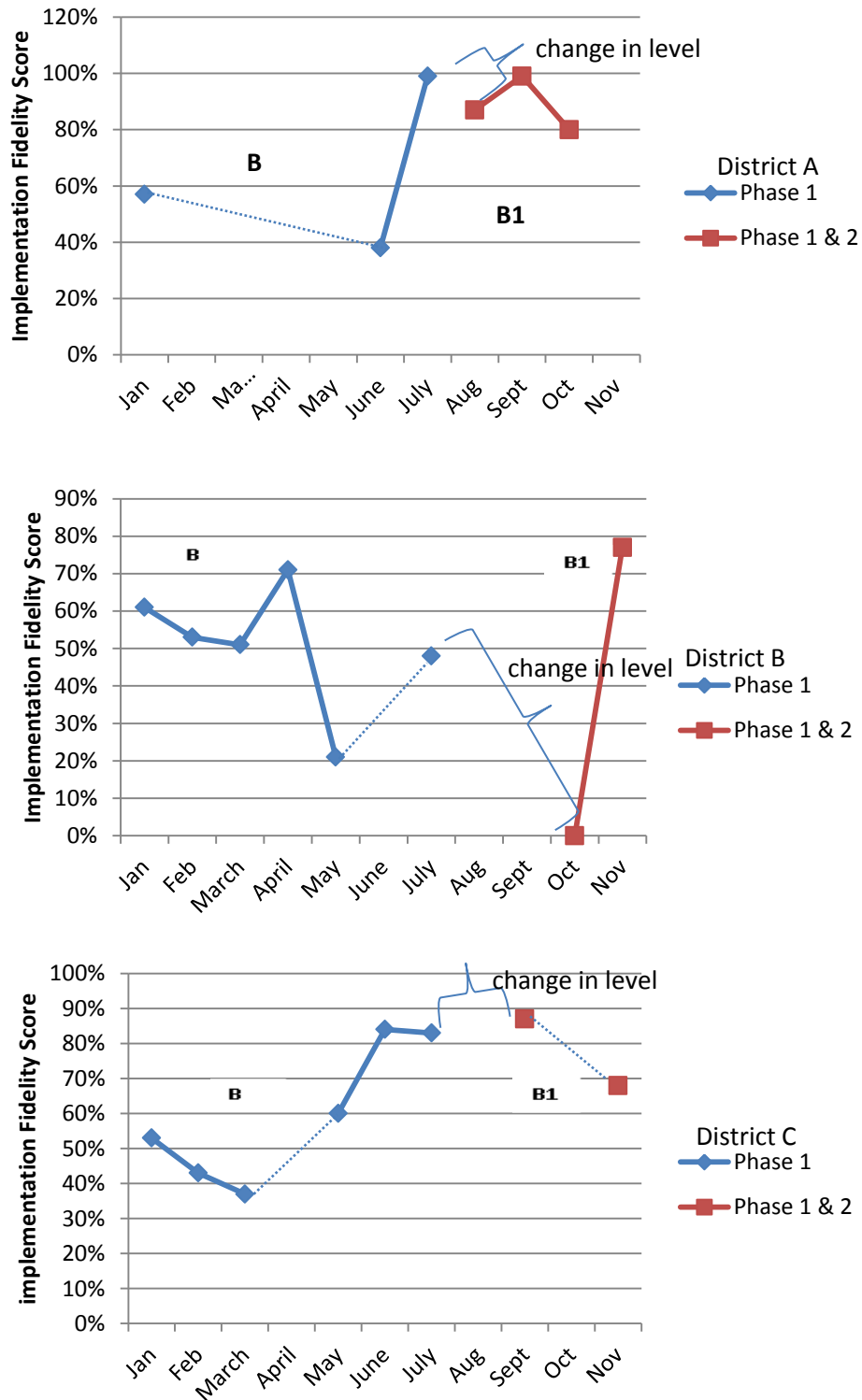


Figure 5. Change in Level of Implementation Fidelity

Note. The dotted line connecting data points represents missing data as cases were not reviewed and assessed for implementation fidelity during those months.

Changes in Trend

Trend refers to the directionality of the data over time (increasing, decreasing, or none) and can occur within phases (slope) or across phases (drift) (Bloom et al., 2009). Therefore, trend describes whether the degree of implementation fidelity over time is increasing, decreasing, or remaining constant. Figure 6 represents the trend within and across the phases for each district. During Phase One (B) of SAMS implementation in District A, there was a slight increasing trend in implementation fidelity; however, after implementing Phase Two (B1), a slight decreasing trend appeared. As the trends (slopes) within each phase do not go in the same direction, there is no drift across the phases (Nugent, 2010). Therefore, District A experienced a slight increase in implementation fidelity and then a slight decrease over time.

There is also no drift across phases in District B (see Figure 6). District B experienced a slight decreasing trend in implementation fidelity during Phase One of SAMS (B) and a steep increasing trend following implementation of Phase Two of SAMS (B1). Consistent with the other districts, there is no drift across phases in implementation fidelity within District C (see Figure 6). District C experienced a slight increase in trend (slope) in implementation fidelity during Phase One of SAMS (B) and a steep decrease in trend (slope) following implementation of Phase Two of SAMS (B1).

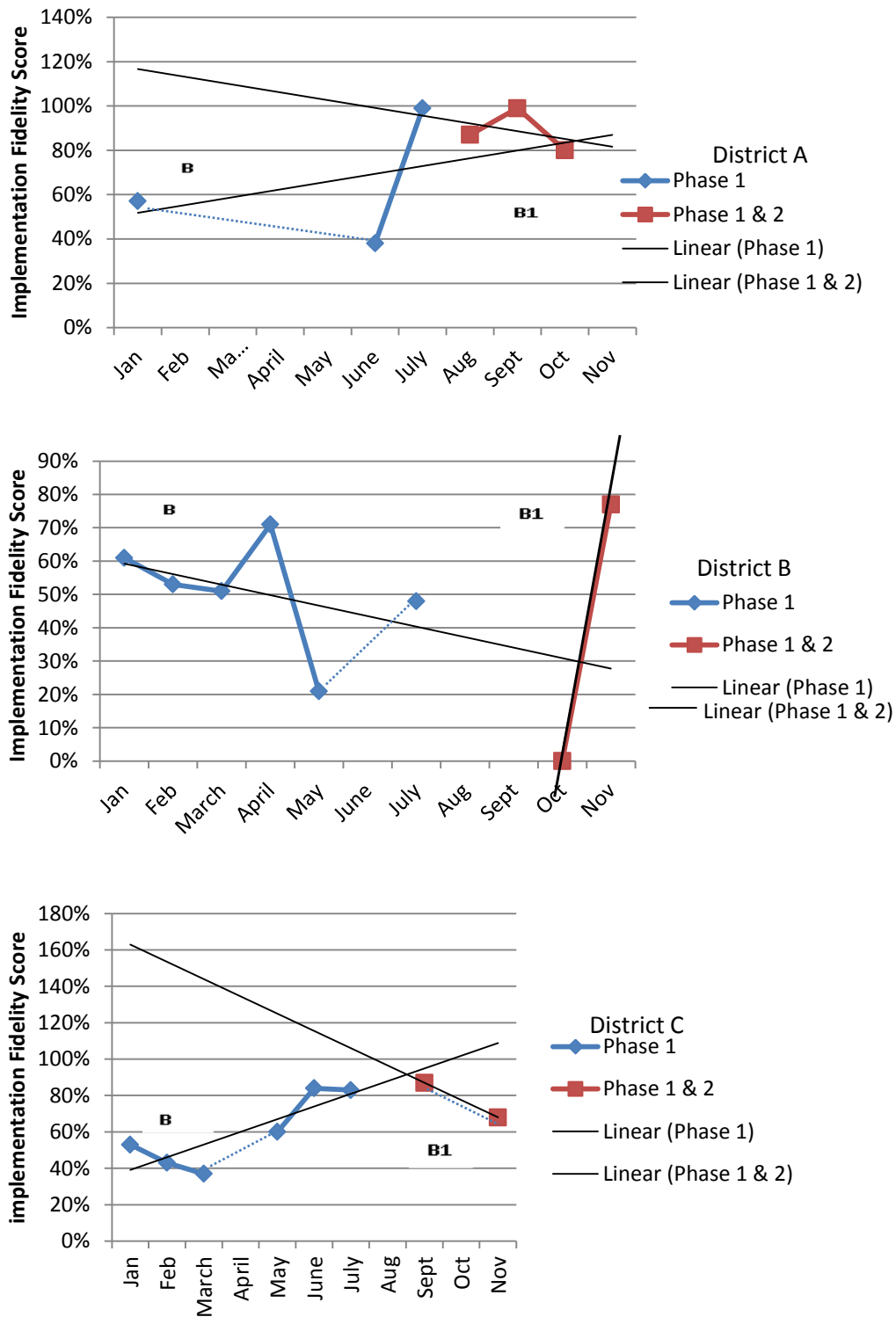


Figure 6. Change in Trend of Implementation Fidelity

Note. The dotted line connecting data points represents missing data as cases were not reviewed and assessed for implementation fidelity during those months.

Changes in Variability

To assess the extent to which the level of implementation fidelity fluctuates across phases (B, B1) as related to the trend, systematic and nonsystematic variability was explored. The range of variability within each phase was examined to assess nonsystematic variability, which is random, and systematic variability, which is due to the influence of a number of factors that may or may not be known (Nugent, 2010).

As can be seen in Figure 7, there was considerable overall variability in the degree of implementation fidelity for District A during Phase One of SAMS (B), ranging from 38% to 99%. A small amount of this variability was associated with the increasing trend and the remaining was unexplained, nonsystematic variation suggesting the increase in implementation fidelity was random. With the addition of Phase Two of SAMS, the overall variability in the degree of implementation fidelity decreases from 87% to 80% over time. A very small amount of this variability was associated with systematic variation.

District B experienced considerable overall variability in implementation fidelity within both phases (B, B1) (see Figure 7). Implementation fidelity within Phase One ranged from 21% to 71%. Once Phase 2 of SAMS was implemented, the degree of implementation fidelity ranged from 0% to 77%. Within Phase One of SAMS implementation (B), there was a small amount of variation associated with the decreasing trend; however, there was no systematic variation associated with the increasing trend once Phase Two of SAMS was implemented (B1). As a result, the variation was unexplained, nonsystematic.

The overall range of variability in implementation fidelity during Phase One in District C ranged from 37% to 84% (see Figure 7). A very small amount of that variability was associated with the increasing trend. With the addition of Phase Two of SAMS, the overall variability decreases, ranging from 87% to 68%, none of which was associated with the decreasing trend within that phase (B1). Within all three districts, more systematic variation, which could be related to the differences in staff members completing the FFA form and reviewers evaluating them, was associated with the trend in Phase One than once Phase Two of SAMS was implemented. This may suggest that fidelity during early stages of implementation was influenced by the learning curve of staff members and reviewers.

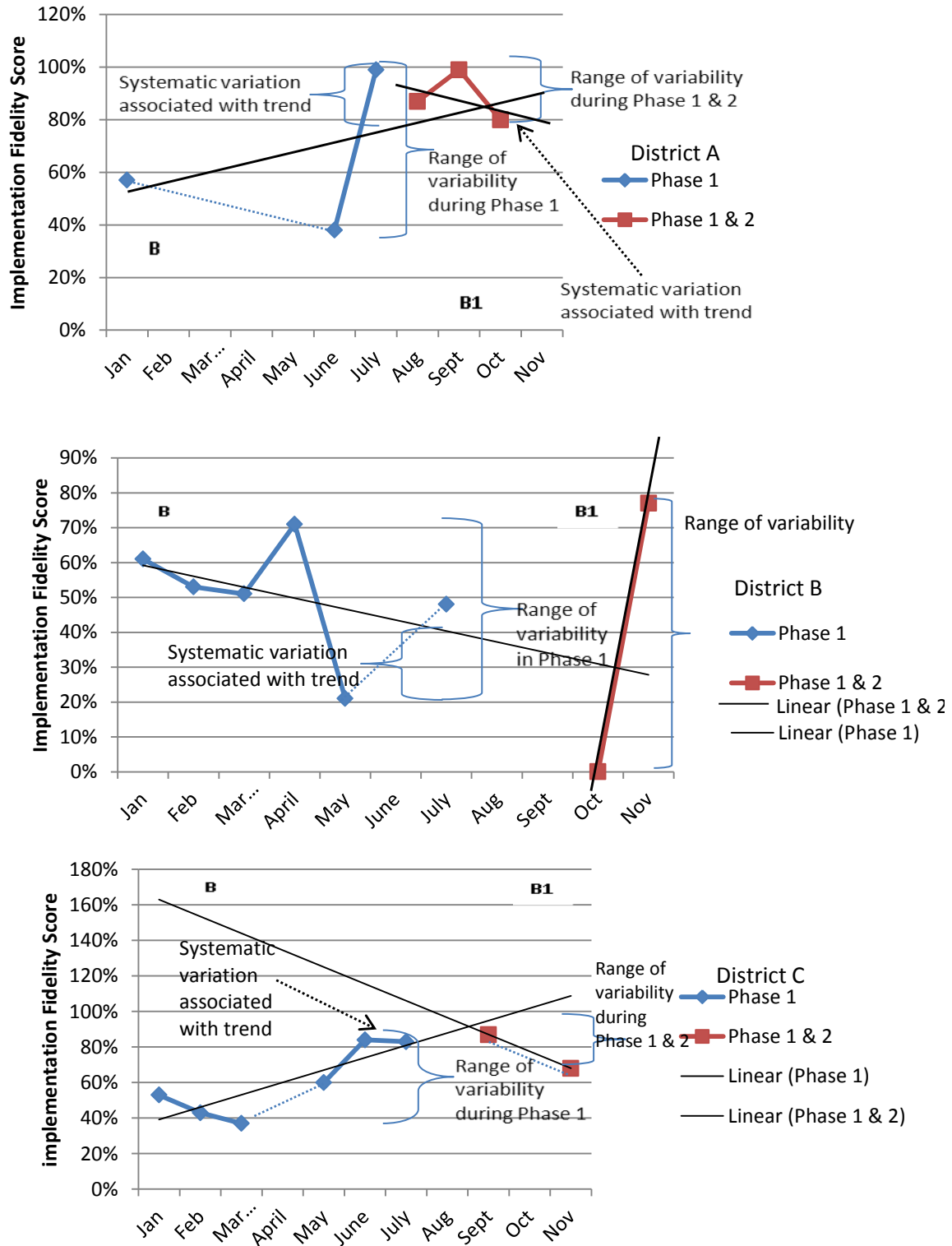


Figure 7. Change in Variability of Implementation Fidelity

Note. The dotted line connecting data points represents missing data as cases were not reviewed and assessed for implementation fidelity during those months.

Degree of Overlap

To assess whether there was a difference in the data between Phase One (B) and Phase One and Two (B1), the degree of overlap in variability across the phases was examined. The greater the degree of overlap in variability, the less visually apparent are the changes in implementation fidelity across these phases (Nugent, 2010). Therefore, the greater the amount of overlap in variability, the less likely it was that Phase Two of SAMS (B1) impacted implementation fidelity percentages in Phase One (B). As can be seen in Figure 8, there was considerable overlap in variability across the phases within each district. In fact, District B had a very small amount of non-overlap. Due to the amount of overlap within each district, it was unlikely that a difference in implementation fidelity exists across the phases and that any differences in implementation fidelity percentages were related to nonsystematic, random variation.

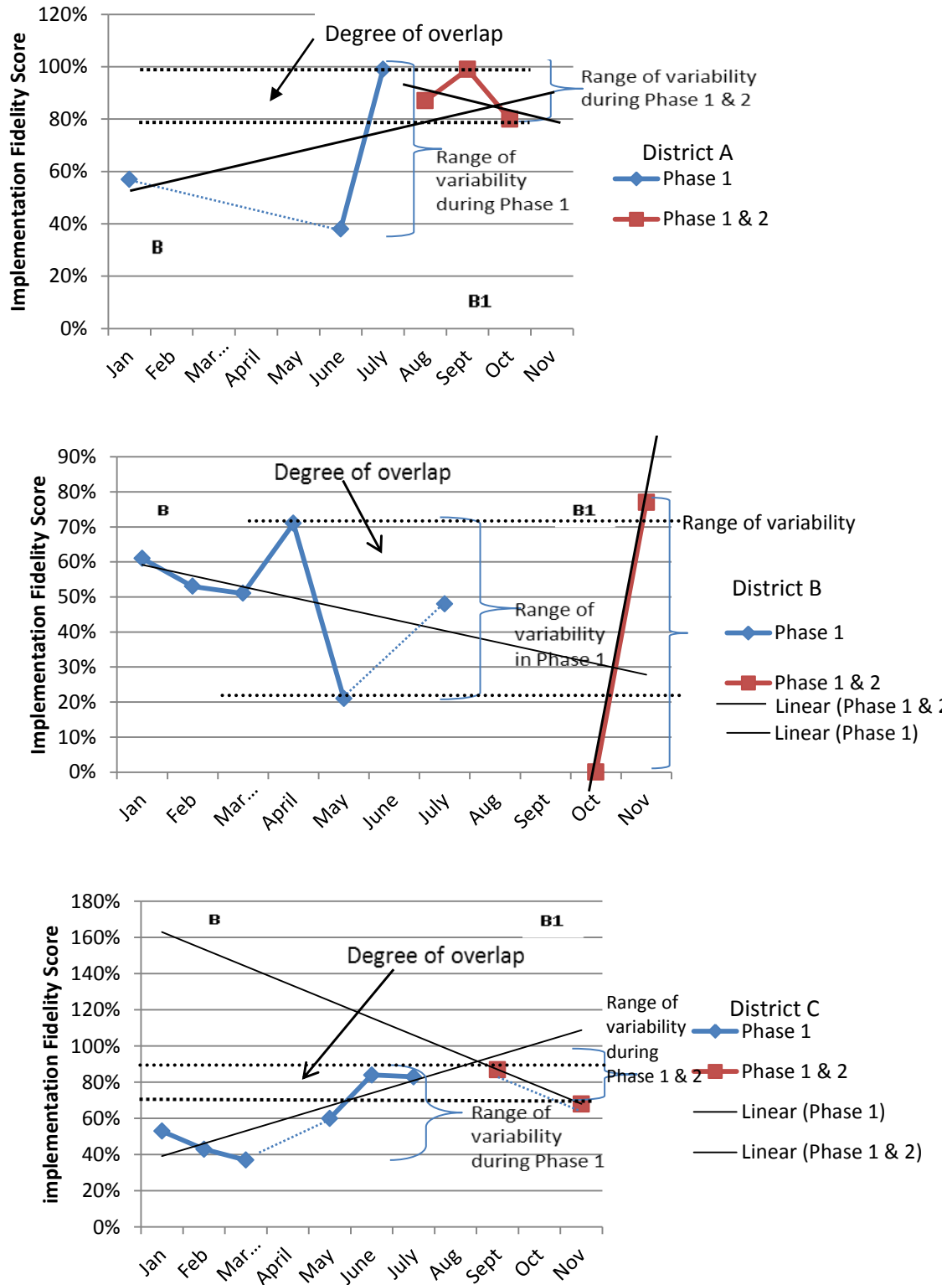


Figure 8. Degree of Overlap in Variability

Note. The dotted line connecting data points represents missing data as cases were not reviewed and assessed for implementation fidelity during those months.

Changes in Phase Mean

Change in phase means is a form of change in level between phases (Nugent, 2010). Rather than comparing one specific data point in time within each phase (B, B1), change in means compares the extent to which the phase means differ from one another. Figure 9 displays the means for each phase within each district. On average, the degree of implementation fidelity during Phase One of SAMS implementation across all three districts fell in the low or moderate fidelity range (District A = 65%, $SD = 31.214$; District B = 51%, $SD = 16.810$; District C = 60%, $SD = 20.00$). After Phase Two of SAMS was implemented (B1), the average degree of implementation fidelity varied across all three districts, ranging from 89% ($SD = 9.61$) in District A, 39% ($SD = 54.45$) in District B, and 78% ($SD = 13.44$) in District C. To examine whether there was a mean difference across the phases (B, B1) within each district, a Wilcoxon Matched Pair Signed Rank test was performed and no statistically significant difference was found.

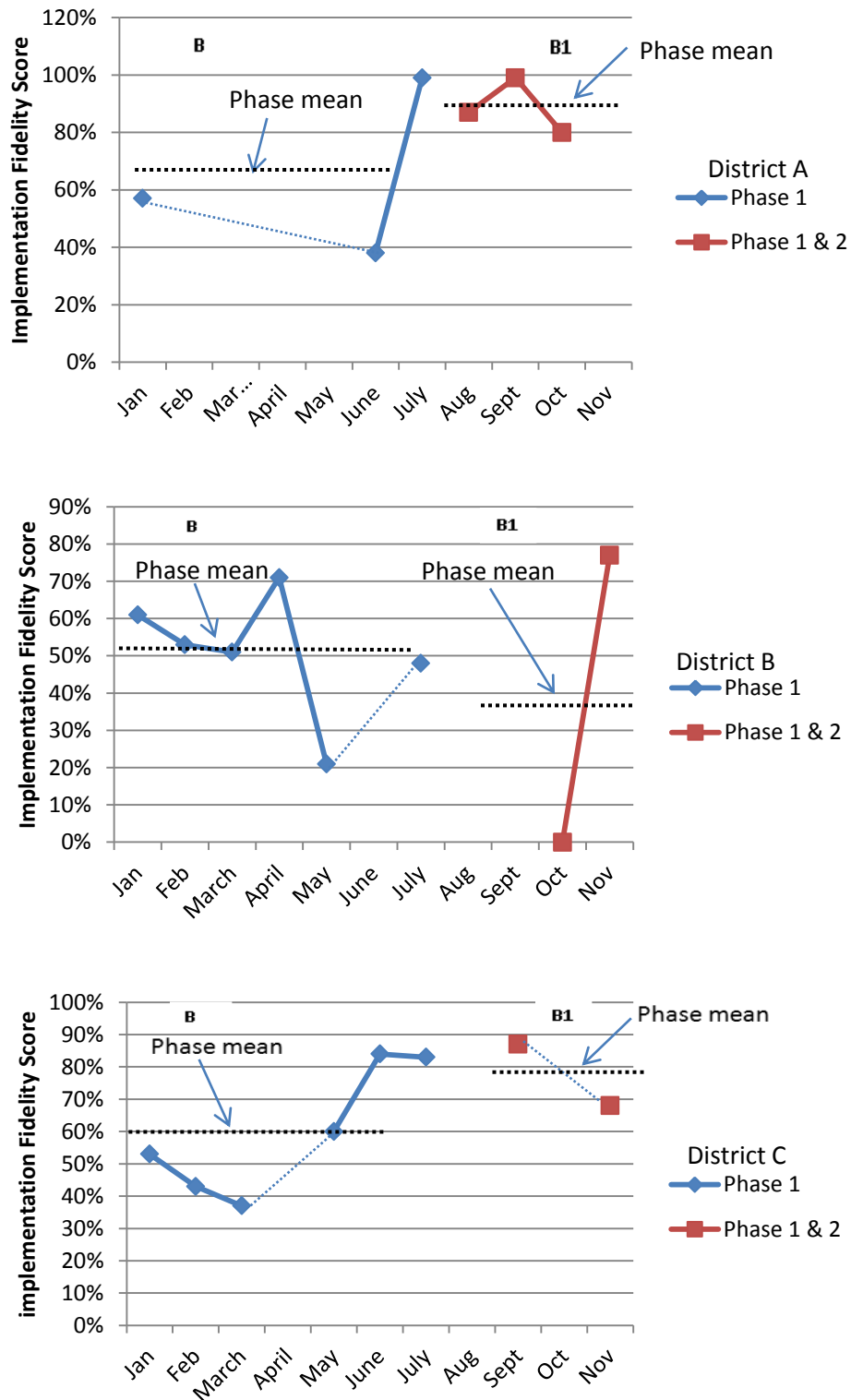


Figure 9. Change in Mean Implementation Fidelity

Note. The dotted line connecting data points represents missing data as cases were not reviewed and assessed for implementation fidelity during those months.

Change Over Time

As the above visual and non-parametric analyses did not support Phase Two of SAMS impacting the degree of implementation fidelity of Phase One of the SAMS practice model, the change in degree of implementation fidelity within each district over the time period under review (January – November, 2010) was examined. Two of the three districts experienced an increasing trend in implementation fidelity over time (see Figure 10). District A was the only district showing a steady change in the level of implementation fidelity over time, moving from low (57%) to moderate to high (99%) implementation fidelity and was able to reach and maintain high implementation fidelity seven months post implementation of Phase One of SAMS. The degree of implementation fidelity in District B was irregular. District B reached moderate implementation fidelity (77%) by the end of the observation period; however, this was only the third time moderate implementation fidelity was reached within this district and high implementation fidelity was never reached. On the other hand, District C was able to reach high implementation fidelity six months post implementation of Phase One of SAMS. This was maintained until the last observation period when implementation fidelity fell in the moderate fidelity range. On average, the overall degree of implementation fidelity in District A was 77% (range = 38% to 99%), whereas District B yielded an average overall implementation fidelity percentage of 48% (range = 0% to 77%) and District C yielded a 64% (range = 37% to 87%) average overall implementation fidelity percentage over the time period under review. Kruskal-Wallis statistical analysis was performed to assess significant difference in average degree of implementation fidelity across the three districts. No statistically significant

difference was found across the districts.

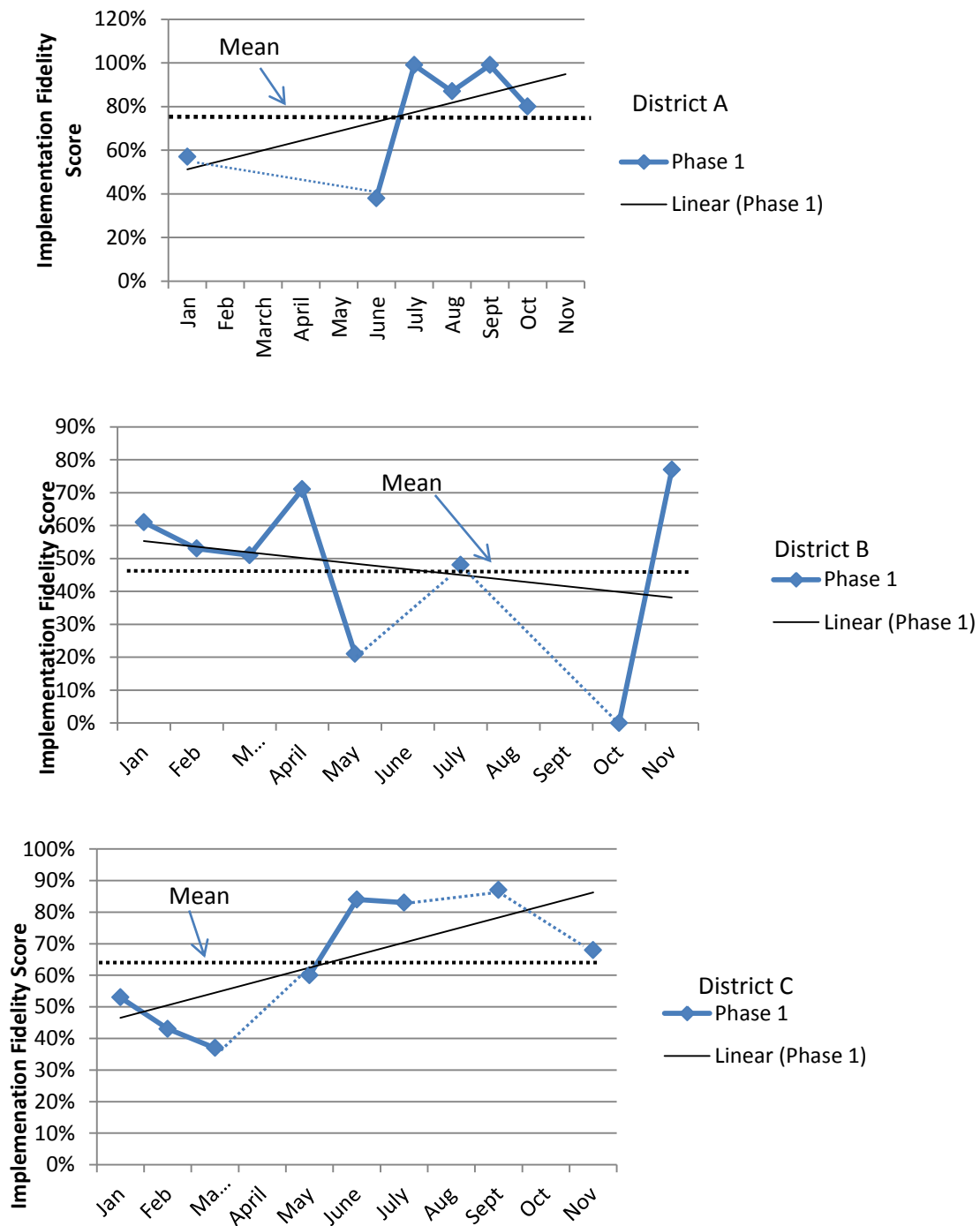


Figure 10. Change in Implementation Fidelity Over Time

Note. The dotted line connecting data points represents missing data as cases were not reviewed and assessed for implementation fidelity during those months.

E. Difference in Implementation Fidelity across Districts

Case-level analyses were performed using ANOVA and MANOVA to assess differences between the districts in overall implementation fidelity of Phase One of the SAMS practice model, as well as to identify on which constructs of the FFA the districts differed.

ANOVA Findings

Assumption checking was first conducted. Independence of observation is best addressed during the design stage of the research study in order to ensure there is no relationship between individuals within the group, which can be handled by randomly selecting the cases within each district (Stevens, 2002). As the cases reviewed for fidelity comprised those cases active during the time of the review, it is unknown if they represented a random selection and if this assumption was met. Histograms were used to assess if implementation fidelity was normally distributed within each district. The distribution was normally distributed in two of the three districts and relatively normally distributed in District A, which experienced more cases below than above the mean; however, ANOVA is robust to violations of normality so this assumption was met (Stevens, 2002). The homogeneity of variance assumption was also met as the Levene's test was non-significant ($p = .941$) (Stevens, 2002).

Across all cases reviewed in District A ($N = 50$), the average implementation fidelity score was 73.900 ($SD = 30.212$). District B ($N = 42$) yielded an average implementation fidelity score of 58.452 ($SD = 29.821$), and District C ($N = 42$) yielded an average implementation fidelity score of 55.667 ($SD = 27.747$). Table 8 displays the results from the one-way ANOVA. The overall model yielded a statistically significant

difference ($F = 5.258, p = .006$) in implementation fidelity between the districts. On average, implementation fidelity of SAMS was 18% higher in District A than District C ($p = .010$), and 15% higher in District A than District B ($p = .035$). There was no statistically significant difference in implementation fidelity of SAMS between the District B and District C. Overall, District A implemented the SAMS practice model with higher fidelity than District B and District C. The average implementation fidelity score across the cases reviewed in District A fell in the moderate fidelity range, whereas District B and District C fell in the low implementation fidelity range.

Table 8

Difference in Implementation Fidelity across Districts

Implementation Fidelity	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between	9051.971	2	4525.985	5.258	.006
Within (Error)	112762.238	131	860.780		
Total	121814.209	133			

MANOVA Findings

Again, assumption checking was performed prior to interpreting the findings from the analyses. As enough information was unknown regarding how the cases reviewed for fidelity were selected, it is unknown whether or not the independence of observation assumption was violated. Homogeneity of covariance matrices was checked using Box's M test. Although Box's M was significant ($p < .0005$), the group sizes (District A = 46, District B = 39, District C = 38) were sufficiently close in size ($\leq 1.5:1$) for this assumption to be considered adequately met (Stevens, 2002). As this assumption was

adequately met, there was no concern for homogeneity of variances and adjustment to the alpha level was not warranted (Stevens, 2002).

The main effect was significant for the set of four dependent variables (Wilks' Lambda = .726, $F = .5.080$, $p < .0005$) indicating the districts differ on implementation fidelity for the set of FFA constructs. Post hoc procedures were used to identify where the differences were. Following recommendations from Stevens (2002), the univariate F tests were not used as they ignore the inter-relationships among the set of dependent variables. Instead, Hotelling's T^2 tests were used to identify which districts differ on implementation fidelity for the set of FFA constructs.

The Hotelling's T^2 test indicated District A and District B differed on implementation fidelity for the set of dependent variables ($F = 5.756$, $p < .0005$) as did District A and District C ($F = 9.208$, $p < .0005$). There was no statistically significant difference between District B and District C on the set of dependent variables. To identify on which of the four FFA constructs the districts differed, univariate t -tests were performed; however, using the Bonferroni correction, the alpha level was adjusted prior to interpreting the findings (Stevens, 2002). With eight t -tests and a desired Type I error rate of .05, the alpha level was set at $.05/8 = .00625$.

Table 9 and 10 display the findings from the univariate t -tests. The univariate t -tests indicated District A differed from District B (see Table 9) and District C (see Table 10) on implementation fidelity of the Temporary Protection and Safety Planning constructs of the FFA tool. District A had a 20% higher implementation fidelity rate for Temporary Protection than District B ($t = 3.201$, $p = .003$) and a 36% higher implementation fidelity rate than District C ($t = 5.359$, $p < .0005$) on this construct. On

the Safety Planning construct, District A had a 37% higher implementation fidelity rate than District B ($t = 4.030, p < .0005$) and a 33% higher rate than District C ($t = 3.654, p < .0005$). The districts did not differ on implementation fidelity of the Information Collection and Safety Decision constructs of the FFA tool.

Table 9

Differences in Implementation Fidelity of the FFA Constructs between District A and District B

FFA Constructs	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Information Collection					
District A	50	63.980	39.219	-.503	.616
District B	42	67.857	33.808		
Temporary Protection					
District A	49	98.980	7.143	3.201	.003*
District B	40	78.750	39.447		
Safety Decision					
District A	47	75.234	34.542	.233	.817
District B	42	73.452	37.723		
Safety Planning					
District A	50	76.000	43.142	4.030	<.0005*
District B	41	39.024	44.034		

Note. *Represents statistically significant difference between District A and District B in implementation fidelity for these FFA constructs.

Table 10***Differences in Implementation Fidelity of the FFA Constructs between District A and District C***

FFA Constructs	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Information Collection					
District A	50	63.980	39.219	.356	.723
District C	42	61.452	28.823		
Temporary Protection					
District A	49	98.980	7.143	5.359	<.0005*
District C	39	63.462	40.897		
Safety Decision					
District A	47	75.234	34.542	.393	.695
District C	41	72.390	33.045		
Safety Planning					
District A	50	76.000	43.142	3.654	<.0005*
District C	42	42.851	43.577		

Note. *Represents statistically significant difference between District A and District C in implementation fidelity for these FFA constructs.

F. Summary of Results

Descriptive analyses indicate that, across all three districts, practitioners' perceptions on the Organizational Readiness for Change and Organizational Climate Scales were higher than average (scores over 3.5 on a 1 to 7 Likert scale). Visual analyses of the single system case study found Phase Two of SAMS implementation did not influence implementation fidelity scores related to implementation of Phase One of the SAMS practice model. Throughout the time period under review, none of the districts reached an overall average high degree of implementation fidelity, despite having some months that reached in the high implementation fidelity range (80% and

above). District A displayed an increasing trend in implementation fidelity over time and on average, reached a moderate overall degree of implementation fidelity and maintained high fidelity throughout the last four months of the observation period. District A demonstrated statistically significant higher implementation fidelity of the SAMS practice model than District B and District C. In particular, the districts differed statistically on the Temporary Protection and Safety Planning constructs of the FFA tool, with District A reaching higher implementation fidelity on these constructs than the other two districts.

CHAPTER FIVE: DISCUSSION

The primary focus of this dissertation was to examine the change over time in the degree of implementation fidelity of a safety assessment, safety management child welfare practice model. To explore the change in the degree of implementation fidelity within and across three districts in West Virginia, secondary data from surveys completed by child welfare staff and administrative data from case record reviews were used. This chapter considers the findings of the present study, the strengths and limitations of this study, implications for social work practice, and suggestions for future research.

A. Consideration of Findings

Consistent with Perepletchikova and Kazdin (2005), high implementation fidelity comprised scores of 80% and above. By the end of the 11 month observation period, only one district, District A, reached and maintained high implementation fidelity. This was achieved despite District A being one of West Virginia's largest districts and having one of the highest investigation workloads per staff member. This finding is consistent with studies conducted by Henggeler et al. (2008) and Zvoch (2008). Henggeler et al. found larger caseloads were related to a greater degree of adherence, and Zvoch found larger schools initially had lower adherence rates but this increased over time.

Although District C reached high implementation fidelity at six months post implementation of Phase One of SAMS, one month earlier than District A, District C was not able to maintain high implementation fidelity throughout the remaining observation period. Nonetheless, it did maintain an overall moderate degree of implementation fidelity according to the standards set forth by the ACCWIC researchers. Given the complexity of the SAMS practice model, reaching high implementation fidelity within 11

months may be a challenge as complex innovations are more difficult to implement with fidelity (Carroll et al., 2007; Rogers, 2003). Sustaining complex innovations with high implementation fidelity is challenging (Yeaton & Sechrest, 1981). West Virginia attempted to counter this through the use of core implementation drivers (Fixsen et al., 2008) such as the use of trained staff members to provide ongoing coaching to reinforce the skills and knowledge gained during initial training of the SAMS practice model. Despite best efforts, the trained supervisors found themselves unable to review cases monthly as originally planned due to workload demands. This resulted in a lack of regular feedback to the practitioners and little to no identification of areas of program drift. This may explain the drift from high to moderate implementation fidelity experienced in District C at the end of the observation period. This dissertation supports the conclusion by Fixsen et al. (2008) that regular feedback provided to the practitioner to ensure adherence to the innovation is essential to ensure high implementation fidelity and prevent program drift. Therefore, it may be feasible to obtain and maintain high implementation fidelity with regular feedback.

The systematic variability in the degree of implementation fidelity during the first six months post implementation of Phase One of SAMS may be explained by the practitioner and organizational factors. All three districts only achieved an overall low degree of implementation fidelity during the first six months post implementation of Phase One of SAMS. This may suggest that practitioner and organizational characteristics are more important earlier in the implementation process. This is consistent with Cook's (2000) findings that revealed organizational factors such as openness to change predicted early adoption of the innovation, and practitioner

characteristics such as ability and beliefs predicted adherence to the innovation.

Despite the small number of cases reviewed within each district each month, the findings in this dissertation support the likelihood of practitioner characteristics influencing the degree of implementation fidelity. For example, in District B, only one case record was reviewed during the month of October, resulting in a 0% degree of implementation fidelity; whereas, in April, when only one case record was reviewed, the degree of implementation fidelity was 71%. This variation in individual staff members may reflect their lack of buy-in, knowledge/skills, or time to accurately complete the FFA form, given the CPS workload demands in WV.

As described by the Diffusion of Innovations Theory (Rogers, 2003), it is not uncommon for practitioners to refrain from immediately adopting an innovation. Over time adherence to the innovation may increase as staff members see the benefits of the innovation with clients (Katz et al., 1963) and/or begin to positively perceive the innovation (Greenhalgh et al., 2004). This can be enhanced through regular monitoring of the implementation process that is supplemented with feedback and training as needed (Carroll et al., 2007; McCollum et al., 2007). As highlighted on the SSRD graphs, monitoring of implementation fidelity through case reviews was sporadic, with gaps of up to three consecutive months. With regular feedback (e.g., through monitoring and coaching), practitioners can make the necessary adjustments with the implementation of the practice model, which may produce higher degrees of implementation fidelity, possibly in a shorter amount of time. However, even under ideal conditions, it may take up to four years for an innovation to be fully implemented with high fidelity (Bond et al., 2009; Fixsen et al., 2009).

The results from the MANOVA analyses are a reminder that other factors such as information gathering and level of risk may impact implementation fidelity of key components of a safety management, safety assessment practice model and are promising for further research. These findings underscore the complexity of safety assessment. Specific components of the SAMS practice model were implemented with a greater degree of fidelity in some districts than others. Particularly, Temporary Protection and Safety Planning were implemented with a greater degree of implementation fidelity in District A than District B and District C. Despite all three districts reaching moderate implementation fidelity with Information Collection, only District A implemented a Temporary Protection plan with high fidelity. D'Andrade, Austin, and Benton (2008) recognize that child welfare practitioners collect a lot of information, some not relevant to case outcomes, which may increase the chance of using irrelevant information to make risk and safety decisions and accurately recognizing present danger. Additionally, the authors found that child welfare practitioners are inconsistent in ratings of immediate safety to children (D'Andrade et al., 2008).

Despite all districts reaching moderate implementation fidelity with Safety Decision, District A differed from the other districts in implementation fidelity of Safety Planning, reaching moderate fidelity, while District B and District C fell in the low fidelity range. Depending on the level of risk assigned to the child, prior research shows that child welfare practitioners differ in their planning, particularly with midrange risk cases (Schuerman, Rossi, & Budde, 1999). Therefore, further examination of the cases is warranted to determine whether a difference in implementation fidelity of Safety Planning exists across the levels (low, moderate, high) of risk.

The environment in which this practice model was implemented cannot be overlooked when assessing what affect the contextual factors contributed to the degree of implementation fidelity. As previously stated, West Virginia (WV) failed to meet Child and Family Services Review (CFSR) Safety Outcome measures during 2002 and 2008. In response, in 2002, WV revised its CPS system and implemented Safety First, a new assessment process requiring the completion of two safety assessments and one risk assessment at the beginning and throughout the life of the case (USDHHS, 2009). The additional time spent on completing the assessments and the increase in the investigation workload (38.9%) across the state (WVDHHR, 2008), led to a backlog in completing investigations in a timely manner (USDHHS, 2009), which is contrary to the intended outcomes of Safety First. In addition to Safety First, a Comprehensive Assessment and Planning System (CAPS) was implemented to improve the quality of assessments on youth in foster care in order to develop a thorough and case specific treatment plan. As CAPS was not utilized in CPS cases, issues arose with achieving outcomes for children who entered foster care due to a lack of shared information. As a result, WV responded by implementing the SAMS practice model, which incorporates aspects of CAPS and Safety First but allows for a seamless transition from intake to case closure with child safety being paramount.

As pointed out, workload continues to be a problem in WV. This may have contributed to the small sample size experienced in this study, as workers did not find the time to complete non-essential work-related tasks. In addition to not finding the time to complete the surveys, workers may find the FFA form too time-consuming, adding to their already overburdened workload. As a result, the form is either not completed in a

timely manner, leading to questions regarding the accuracy of the information on the form, or not completed at all. Either way, without the completion of the FFA it is not possible to assess accurately the degree to which workers implement SAMS with fidelity.

To address the chronic investigation backlog across the state, a Crisis Response Team was created to help districts decrease the backlog. Once the team moved onto another district, the benefits from their presence did not prevail. Workers were not consistently capturing underlying issues that led to increased risk for abuse and/or neglect. In response, WV implemented a competency-based certification program for CPS workers and supervisors to emphasize the connection between competent practice and the agency's mission to protect the safety of children. The initial findings from this study supports that workers continue to not capture underlying issues that lead to increased risk for maltreatment as evidenced by the moderate implementation fidelity rate of the Information Collection component of SAMS across the districts. Also evidenced from the findings of this study, CPS workers continue to struggle with implementing Temporary Protection and Safety Planning with high fidelity. Despite gathering information and identifying safety threats, that information does not appear to be utilized to create individualized safety plans addressing those threats and utilizing the identified protective factors. This finding is not new as the 2007 statewide assessment confirmed that many times the services provided to families were based on services available and not on the identified needs of the family (WVDHHR, 2008); therefore, workers are not able to adequately assist families, which potentially places children at risk of repeat maltreatment.

Inconsistencies in practice can, in part, be attributed to issues related to staff

recruitment and retention. Staff turnover, particularly in CPS, is a serious problem in WV. Over the past five years, the CPS workforce operated at 70% staff, whereas the remaining 30% comprised vacancies and staff members with less than one year experience who were still completing initial training (WVDHHR, 2009). Staff turnover has resulted in workers with little CPS experience being promoted to supervisory positions. To address the lack of experience of the staff in CPS, Critical Thinking training was provided to CPS supervisors to strengthen their logical thought processes. Due to the extent of supervisory training needs and limited resources, WV has not been able to fully meet this training demand (WVDHHR, 2009). To address the concern, plans are in place to utilize technology (i.e., webinars, Blackboard) to offer the training.

Until the staffing needs, knowledge and skills of the supervisors, and organizational resources are adequately addressed, implementation fidelity of the SAMS practice model may not be achieved. With the absence of purveyors, supervisors are now expected to conduct the case record reviews to assess fidelity of the SAMS practice model and provide feedback to caseworkers who may be drifting from the core components of the model, yet many supervisors need to carry cases to address the investigation backlog and some may lack the necessary critical thinking skills needed to foster the implementation of a complex practice model such as SAMS. This increased workload may have resulted in the lack of consistent monthly case reviews highlighted in this study. Additionally, the supervisors' lack of skills may prevent them from providing to their staff the training and coaching necessary to prevent program drift. Failing to provide consistent feedback and coaching to the workers may result in an innovation

never being fully implemented (Bond et al., 2009; Carroll et al., 2007; & Fixsen et al., 2009), which may have a profound negative effect on case outcomes.

B. Strengths of Study

Consistent with what is known about implementation being a process that occurs over time, this dissertation employed a longitudinal research design. Contrary to the data collection method (self-report surveys) employed by most studies reviewed, this study utilized a prospective case record review to assess the degree to which practitioners adhered to the core components of the SAMS practice model. Another major strength of this dissertation is that it responds to the dearth of SSR studies in social work and is one of the few single-system case studies exclusively examining implementation fidelity. The use of the B design also allows for individualized improvement plans for each district as the case study approach identifies aspects of the individual organization that may have influenced implementation fidelity (Stuczynski & Kimmich, 2010).

C. Limitations of Study

There are limitations with this research design that warrant mentioning. A notable limitation was the use of self-report surveys to collect data on all the predictor variables, which may mitigate the validity of findings due to social desirability bias (Shadish et al., 2002). Organization-level assessments are challenging as they require data be obtained from staff within the organization and then aggregated to represent “the organization” (Simpson, 2009). The data obtained may not be reflective of the collective organization, the unit of analysis of interest in this dissertation, as not every worker in the organization completed the questionnaires. It was not possible to assess potential selection bias as information on how many individuals received the survey across the

districts as well as their demographic information was unknown to the researchers. Additionally, as demographic information about the workers such as age, degree, and years of experience was not collected, these specific practitioner characteristics were not included in the model, which could lead to misspecification of the model due to prior research (Henggeler et al., 2008; Sanders et al., 2009) showing that these indicators may impact implementation fidelity.

There are also concerns with the definition and measurement of the dependent variable. Implementation fidelity was measured by the degree to which practitioners adhered to the practice model; however, fidelity is considered a more complex construct that includes dose/exposure, adherence, and quality of implementation (Dane & Schneider, 1998). Also, the implementation fidelity measure relied on subjective interpretation of the purveyors trained at each district to complete the SAMS fidelity tool; however, inter-rater reliability was deemed acceptable. Despite acceptable inter-rater reliability rates, concerns regarding the selection of cases reviewed each month remain. A convenience sample of active cases at the time of the review was used to determine implementation fidelity. These cases reviewed each month may have different workers and reviewers assessing the fidelity, which partially accounts for some of the changes in implementation fidelity.

Another limitation of this dissertation was the use of secondary data, which prevented the examination of certain predictor variables (i.e., practitioner competence and demographic characteristics) due to variables of interest not being collected by original researchers. Additionally, due to the way in which the data were collected, it was not feasible to conduct a case-level analysis. This limitation resulted in an

organization-level analysis to answer two of the three research questions, which drastically reduced the sample size and power in those analyses. With the lack of additional case-level variables, it was not possible to examine the impact of other predictor variables on the dependent variables.

The size of the sample was not ideal and warrants further discussion as it relates to a limitation of this dissertation. The response rate is unknown as the total number of staff within each district is unknown and attempts (e.g., CFSR, statewide assessment, original researchers) to obtain that information were futile. Within some of the districts, only one staff person completed the surveys used to represent the practitioner and organizational characteristics of all the staff members. It is unlikely that this one person represents the attitudes of the entire population as he/she may be diverse from the rest of the population in terms of experience, skill level, age, and degree. As a result, a larger sample is necessary to represent the heterogeneity of the staff within each district (Engel & Schutt, 2005). Due to the small sample size, the findings from this dissertation must be interpreted with caution and should not be assumed to represent all staff members within each district. Additionally, as only three districts were evaluated to answer these research questions, generalizations regarding implementation fidelity across West Virginia cannot be made. Despite these limitations, few implementation fidelity studies examine this phenomenon over time. The findings from this dissertation may identify specific practitioner and organizational characteristics that are essential for quality implementation and which aspects of the SAMS practice model warrant further training to enhance implementation fidelity.

D. Implications for Social Work

This dissertation provides three districts in West Virginia with preliminary feedback about the degree to which they implemented the SAMS practice model with fidelity. Knowing the degree of implementation fidelity allows for further analysis of whether a relationship exists between implementation fidelity and the intended case outcomes. It is expected that SAMS will aid practitioners in the correct identification of children and families in need of services to prevent future child maltreatment. If child maltreatment recurrence rates within a district do not decrease, which is the long-term goal of SAMS, it would be premature to abandon the SAMS practice model if high implementation fidelity was not achieved. Prior research suggests there are other factors, such as practitioners' skills and knowledge, and organizational support and resources that may moderate how well the innovation is implemented (Allen et al., 2007; Crampton et al., 2008; Gowdy et al., 2004; Helfrich et al., 2007; Livet et al., 2008; McCollum et al., 2007; Mihalic et al., 2008; Polizzi Fox et al., 2004; Sanders et al., 2009; Schoenwald et al., 2009; Wright et al., 2010). Additionally, how clients respond to the SAMS practice model may influence case outcomes as their non-engagement, lack of understanding of requirements, and/or lack of follow through with services have been shown to influence implementation fidelity (Carroll et al., 2007), which ultimately influences case outcomes. Measuring and monitoring clients' reactions to the practice model will elucidate what, if any, effect they have on case outcomes.

Ongoing measurement of implementation fidelity over time allows districts to monitor the degree of implementation fidelity and provide adjustments to the climate (e.g., provide additional supportive services, training, or support) as needed in order to

prevent program drift from occurring. Additionally, to reach high implementation fidelity, ongoing coaching and training of staff members may aid in the change in practitioners' perceptions of the value and benefit of the innovation, both of which have been shown to influence implementation fidelity (Carroll et al, 2007; Dusenbury et al., 2003; Klimes-Dougan et al., 2009). Once high implementation fidelity is achieved, ongoing monitoring of implementation fidelity will allow districts to make necessary changes to prevent program drift, as experienced in District C.

Further analysis of districts and/or cases with high implementation fidelity of the SAMS practice model will elucidate how closely practitioners must adhere to components of the practice model and which components are essential in producing the desired case outcomes. This allows districts to target those areas during staff training, supervision, and coaching to ensure practitioner compliance and subsequently reap the desired case outcomes.

If implementation fidelity is systematically evaluated, it strengthens the validity of outcome studies' findings (Breitenstein et al., 2010). Positive case outcomes of innovations implemented with high fidelity provides support for management to continue investing time, money, and resources in the innovation. Negative case outcomes of poorly implemented innovations provide evidence where additional training, coaching, supervision, and resources may be warranted prior to abandoning the innovation due to prematurely concluding the innovation is ineffective (Lipsey, Petrie, Weisburd, & Gottfredson, 2006). This knowledge has the potential of saving organizations time and money as immediate action can be taken upon identifying when implementation fidelity falls below the identified threshold.

For this to occur, federal, state, and private foundations must not only require implementation studies within organizations receiving financial support, but must also fund the components associated with implementation (i.e., purveyor, training, data collection). As demonstrated in this dissertation, the degree of implementation fidelity may change over time. It is not enough to fund the initial implementation process but policymakers/funders must recognize the importance of sustaining change by agreeing to fund the activities (e.g., fidelity reviews, training, coaching) that assist practitioners with maintaining the progress they make.

Effective implementation has the ability to bridge the research to practice gap (Bhattacharyya et al., 2009). To counter barriers to implementation fidelity, training aimed at positively influencing social workers' attitudes, values, and commitment to utilizing innovations with fidelity must also occur in formal educational settings. Experiential learning opportunities must be incorporated into Baccalaureate and Masters of Social Work research courses as students reported more engagement in the research process, higher acquisition of research skills, and clearer connection between research and practice and the subsequent benefits to clients when provided hands-on learning activities (DeVance Taliaferro & Ames, 2010; Wells, 2006). As a result, upon graduation the social work practitioner may be more inclined to participate in the implementation process, including the completion of surveys, fidelity reviews, and ongoing training/coaching.

E. Suggestions for Future Research

The conceptual model guiding this dissertation identified a number of organizational and practitioner factors directly and interactively influencing

implementation fidelity. As noted in the limitations, it was not feasible to assess some of these factors due to the use of secondary data. The absence of matched data made it impossible to include additional variables in the case-level multivariate analyses. Further research is warranted to tease out which practitioner and/or organizational characteristics predict implementation fidelity and whether specific factors are more likely to influence early or late adoption. As the interaction between practitioner and organizational variables have been shown to influence the relationship between the innovation and the fidelity with which it is implemented (Carroll et al., 2007), it is essential that future research explores the interaction of these effects. Practitioner and organizational characteristics are not fixed and may evolve in response to changing circumstances (Klein & Sorra, 1996). As a result, these characteristics should be measured over time to assess for changes in staff perceptions and how these changes or lack thereof influence implementation fidelity.

Future research should also increase the observation period under review as 11 months may not be long enough to obtain and maintain implementation fidelity. As previously noted, Fixsen et al. (2009) report it may take up to four years for an innovation to be implemented with fidelity. Regardless of the length of the time period under review, measuring implementation fidelity needs to occur regularly; data gathered are used to inform ongoing coaching and/or training of staff members to prevent program drift. This future research may also unveil which aspects of the implementation process are essential in ensuring adherence to the practice model.

Few researchers consider the influence of implementation fidelity on case outcomes (Dane & Schneider, 1998). Future implementation research needs to extend

this knowledge by measuring the relationship between implementation fidelity and case outcomes and whether higher implementation fidelity predicts better case outcomes. This research may also tease out the specific components of the innovation that are essential in producing positive case outcomes (Teague, Bond, & Drake, 1998). Understanding which components of the practice model are essential may also guide future implementation projects in other organizations utilizing this practice model.

F. Conclusion

In order for child welfare to become evidence-based in its clinical practices, more attention to measuring implementation fidelity is necessary (Stuczynski & Kimmich, 2010) and should be included in all outcome evaluation research designs. The results from this study support the importance of identifying practitioner and organizational factors that may influence implementation fidelity and take necessary action to strengthen those factors that have been identified as hindering fidelity. Practitioner and organizational factors should be monitored over time to assess changes. In addition to measuring and monitoring factors that influence implementation fidelity, implementation fidelity must be assessed over time in order to foster high fidelity and address program drift in order to achieve the innovations' desired case outcomes.

Appendix A

Author(s)	Sample	Intervention	Independent Variables	Dependent Variables	Statistical Analysis	Findings
Allen, Lehrner, & Mattison (2007)	12 organizations (clinics, hospitals, public health, mental health)	Screening for domestic violence	Staff characteristics/ attitudes; Organizational characteristics	Implementation (frequency of use)	HLM	Providers with more positive beliefs about the value and appropriateness of screening in health care settings were more likely to engage in screening practices. Beliefs about DV as a health care issue did not emerge as a significant predictor of providers' implementation of screening practices. Providers' perceived capacity to screen was significantly positively related to the frequency of screening. Organizations viewed by providers as being more supportive of screening were more likely to have staff that implemented screening practices.
Cooke (2000)	21 hospitals	Fresh Start smoking cessation program	Clinician characteristics; organizational structure/ environment	Implementation (use adherence)	Logistic and multiple regression	Predictors of Use: hospitals with no policy and high degree of rule formalization

						were less likely to be aware of program; midwives more aware than doctors and individuals who perceived smoking as a risk were more aware of program. Predictors of Adherence: Structural, Work Climate, and Practitioner variables all predicted adoption; more likely perceived hospital to be innovative, the more likely they were to adopt; clinician knowledge of smoking risk did not predict adoption Summary: organizational variables more important during dissemination stage; practitioner characteristics more important during latter dissemination stages
Cronley & Patterson (2010)	7 organizations serving the homeless population	Continuum of Care (CoC) Homeless Management Information System (HMIS)	Organizational culture; gender	Implementation fidelity (use, exposure)	HLM	1) Higher levels of rigidity, proficiency, and resistance increase use. 2) Women report higher average levels of use than men, but the difference diminishes as organizations grow more rigid or resistant.

Gotham, Claus, Selig, & Homer (2010)	7 mental health and 7 substance abuse agencies	Co-occurring disorder service	Organizational characteristics; staff attributes	Implementation (quality)	<i>t</i> -tests; repeated measures; multiple regression	1) significant increase in capability from 2004 to 2006 2) smaller agencies showed more change over time; urban programs showed more positive change in welcoming clients with COD 3) programs with more program and training needs and/or pressures to make programmatic changes showed more change in COD capability; staff attributes not related to change in capability except for clinical process; lower levels of staff cohesion, autonomy, management openness to change in 2004 led to more changes in COD capability
Henggeler et al. (2008)	40 mental health and substance abuse agencies	Contingency Management	Practitioner demographics and attitudes; Organizational characteristics	Implementation fidelity (use, adherence)	HLM	CM adoption: 58% of therapists reported adopting CM and adoption increased over time. Predictors of CM adoption: mental health practitioners, therapists with more education and more years in present position were more likely to adopt CM;

						therapists with more favorable attitudes toward behavior therapy interventions and more positive response to implementing innovation if required by agency were more likely to report adopting CM; there were no organizational characteristics that predicted adoption of CM Barriers to CM Adoption: competing clinical priorities and lack of youth/family engagement Level of Implementation: compared to non-CM cases, CM cases had therapists who used cognitive-behavioral and monitoring components more and this also significantly increased over time Predictors of Fidelity of CM Implementation: fidelity of cognitive-behavioral component higher among therapists with larger caseloads, larger proportion of youth on caseload and younger practitioners; fidelity of monitoring
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						component higher among therapists who were male, younger, and held degrees in social work; practitioner attitudes did not significantly impact model; higher organizational motivational readiness to change was associated with greater fidelity to cognitive-behavioral components and greater organizational training was associated with increased fidelity to monitoring components
Klimes-Dougan et al. (2009)	27 rural elementary schools	Early Risers Prevention Program	Staff Characteristics; School Climate/Culture	Implementation Fidelity (exposure, quality, adherence)	Correlations; multiple regression	1) education and experience did not relate to fidelity; neuroticism negatively correlated to fidelity; extroversion, openness, and conscientiousness positively correlated to fidelity; Beliefs of success, use of coping, perceived support positively correlated to fidelity; support from supervisors not correlated to fidelity; OVERALL: staff characteristics strongly correlated to

						EXPOSURE, moderately correlated to QUALITY, rarely correlated to ADHERENCE 2) job satisfaction positively correlated to more sessions delivered (EXPOSURE), passive/defensive culture positively correlated with fidelity, constructive culture (high motivation, individualism, support) negatively correlated with fidelity 3) openness, coping, and job satisfaction predict exposure to program; both organizational and staff characteristics predicted EXPOSURE;
Kantambu Latting et al. (2004)	6 non-profit employee service organizations	Vocational Rehabilitation Services	Organizational characteristics	Quality of service; Implementation fidelity (adherence)	Bivariate correlations ; SEM	1) Top management support for innovation and organizational learning was significantly related to all variables in model. Supervisor support for empowerment and development significantly related to employee trust in management and affective

						commitment to the organization 2) Employee trust in management significantly related to both client outcomes; however, employee affective commitment to organization only related to perceived quality of service.
Livet, Courser, & Wandersman (2008)	31 non-profit agencies (e.g., Big Brothers/Big Sisters, juvenile court)	Prevention Delivery System	Organizational functioning	Implementation (use)	Correlations	Process-specific organizational capacities were more highly correlated with programming process use than overall organizational functioning variables. The amount of technical assistance and training, and the presence of an implementation process champion were the only variables related to the extent of use of implementation guidelines. Overall organizational functioning (e.g., formalization) had greater influence on use of a sustainability process than process-specific capacities. There were four correlates of use across programming

						process: leadership, process advocates, shared vision, and technical assistance.
Mihalic, Fagan, & Argamaso (2008)	105 schools	Life Skills Training Program	Program characteristics; School Characteristics; Parent/Student behavior	Implementat ion fidelity (adherence, dose, quality, participant responsiven ess)	Descriptive ; Linear regression	1) high rates of curriculum adherence demonstrated with average fidelity scores of 86%; dosage decreased over time (year 1 to year 3 of program); across sites 89% of students participated in lessons 2) quality of LST program and better student behavior related to greater proportion of material taught (adherence); quality of LST program significantly related to dosage 3) based on qualitative data from site visits: implementation failures, teacher training workshops, integrating LST curriculum into school schedule, lack of support for program
Sanders, Prinz, & Shapiro (2009)	650 service providers	Triple P Parenting Program	Characteristics of Provider; Workforce characteristics	Implementat ion fidelity (program use)	Binary logistic regression	No relationship between program use and practitioner's age, and geographic location; however, higher use associated with being White

						and lower use associated with being health, education, or other professional. Lower program use was associated with Barriers (lack of supervision, lack of knowledge/skill, clash with beliefs, lack of resources/support). High program use was strongly associated with being trained in program, receiving positive feedback from parents, minor workplace barriers. Low confidence in skill, difficulty incorporating model, and low workplace support predicted low use of Triple P.
Schoenwald, Chapman, Sheidow, & Carter (2009)	429 therapists	Multi-systemic therapy	Organizational characteristics; fidelity (adherence)	Implementation fidelity (adherence, quality); client outcome	HLM	Job Satisfaction, Decision Making, Growth and Advancement were significantly associated with annual rates of post-treatment charges. Job Satisfaction, Emotional Exhaustion, Growth and Advancement were significantly associated with therapist adherence.

						Higher levels of Adherence associated with lower post-treatment charges when holding covariables constant. With therapist Adherence in model, youth treated by therapists who perceived higher levels of Growth and Advancement (organizational climate) had significantly lower annual rate of youth post-treatment charges.
Stein et al. (2008)	67 schools	K-PALS (reading achievement program)	Teacher perceptions; organizational characteristics	Implementation fidelity (adherence)	HLM	Teacher level of support received impacted implementation fidelity. Level of teacher support for K-PALS implementation is important for early reading achievement gains.
VanDeusen Lukas, Mohr, & Meterko (2009)	78 VA medical centers	Advanced Clinical Access	Organizational characteristics	Implementation (adherence)	HLM	Management support significantly related to implementation, but organizational culture was not.
Zvoch (2009)	52 elementary schools	Literacy programs (Breakthrough to Literacy, Voyager Universal Learning)	Teacher characteristics; organizational factors	Implementation fidelity (adherence)	HLM	Teacher, classroom, and site characteristics were associated with the fidelity outcomes

Appendix B

Family Functioning Assessment Review for Sufficiency of Information and Justification of Decisions	
<i>The FFA Review will assess the practice of identifying families in which children are unsafe and in need of Ongoing CPS. The Review Tool will measure fidelity of the SAMS FFA objectives.</i>	
SECTION I: Administrative Information	
<i>Instructions: Please refer back to the “Lookup” sheet found on the intranet for the Encrypted Case ID, Worker ID and Supervisor ID. In order to complete this review, reviewers will need the FACTS System up and Present Dangers/ Impending Dangers worksheet.</i>	
A. Name of Reviewer	
B. Date of Review	
C. Worker Identification Number (ID #)	
D. Supervisor Identification Number (ID #)	
E. Encrypted Case ID#	
F. County	
G. Report Date and Time Date (mm/dd/yyyy) Time: (24:59)	
H. Date Case Referred for FFA Date (mm/dd/yyyy)	

SECTION II: Initial Contact and Present Danger Determination			
Instructions: In this section, the reviewer assesses the worker's decision making as it relates to Present Danger Determination within the FFA process. Please add any comments in the "Comments" section located at the end of this section.			
	YES		NO
1. Did the worker make contact the family within the <u>assigned</u> response time for present or impending danger identified in the Intake Assessment? <i>(If the assigned response time was not correct, indicate this in the comments section.)</i> Present Danger: (Immediate: 0-2 hours up to same day with justified protective caregiver) Impending Danger: (up to 72 hours with justified protective caregiver) No identified Dangers: (up to 14 days)			
2. Present Dangers	YES	NO	Cannot Determine
a.) Did the worker identify Present Danger at any point in the FFA process?			
b.) Reviewer judgment: Was there evidence to indicate Present Danger in this case?			
	Reviewer Identified	Worker Identified	
3. Which of the following Present Dangers were identified? Check all that apply. If a Present Danger has not been identified, leave blank.			
<i>Maltreating Now</i>			
<i>Multiple Injuries</i>			
<i>Face/ Head</i>			
<i>Serious Injuries</i>			
<i>Several Victims</i>			
<i>Premeditated</i>			
<i>Life Threatening Living Arrangements</i>			
<i>Unexplained Injuries</i>			
<i>Bizarre Cruelty</i>			
<i>Caregiver's Viewpoint of Child is Bizarre</i>			
<i>Child is unable to care for self and is unsupervised or Alone for Extended Periods (0-6)</i>			

<i>Child Needs Medical Attention</i>			
<i>Child is fearful/anxious of the home situation</i>			
<i>Caregiver is intoxicated (alcohol or other drugs)</i>			
<i>Caregiver is out of control</i>			
<i>Caregiver Described as Dangerous</i>			
<i>Parent/ Caregiver Are Unable to Perform Parental Responsibilities</i>			
<i>Caregivers Overtly Reject Intervention</i>			
<i>Spouse Abuse Present</i>			
<i>Family Will Flee</i>			
	YES	NO	Not Applicable
4. If Present Danger was identified by the worker, was a Temporary Protection Plan developed with the family?			
5. Reviewer Judgment: Was a Temporary Protection Plan needed in this case? <i>(If the reviewer does not agree indicate why in the comment section)</i>			
	YES	NO	Not Applicable
6. Reviewer judgment: Was the Temporary Protective Plan sufficient enough to control the present danger threats identified? <i>(If the reviewer does not agree, indicate why in the comment section).</i>			
Comments regarding Identification of Present Danger:			

SECTION III: Information Collection

Instructions: *In this section, the reviewer assesses whether the worker collected adequate information to make appropriate decisions for the case. Please add any comments in the "Comments" section located at the end of this section.*

For Question 1,

- *"Yes" indicates the individuals were interviewed (NOTE: in practice, individuals should be interviewed in the order described in the interview protocol. For the purpose of this review, select YES if individuals were interviewed -- regardless of the order in which the interviews were conducted)*
- *"No" indicates the individuals were relevant to the case, but not interviewed at any point in the FFA process*
- *"N/A" indicates the individuals were not able to be interviewed at any point in the FFA process, or that individuals are not applicable to the case*

1. The interview protocol was followed while collecting information relevant to the FFA, including:	YES	NO	N/A
a.) Identified Child			
b.) Other Children in Family			
c.) Non-Maltreating Parent/ Caregiver			
d.) Maltreating Parent/ Caregiver			
e.) Other Family Members (including Absent Parent)			
f.) Collaterals			

2. Information Collection:

For Question 2, reviewers are to assess whether the worker documented the essential information associated with the decision of maltreatment, parenting practices, and adult/ child functioning.

Reviewer should select “YES” if information is clearly documented.

Reviewer should select “NO,” worker did not seek information if the reviewer believes the worker did not seek the information. When make this determination, reviewers should consider the reporter’s identity, and how reasonable it is that he/she would have access to the information.

Reviewer should select “NO, information not available,” if the worker has sought out information and the reporter does not/ or is unwilling to provide the information.

Please reference the “Caregiver Protective Capacities Reference Guide.”

	Yes. Information is Sufficient	No. Information is present but not Sufficient	No. Informatio n is not present
a. Extent of alleged maltreatment? What is the extent of the maltreatment?			
<i>“Sufficient information” includes description of caregiver behavior indicative of maltreatment; identification of type(s) of maltreatment; effects on child; description of child’s condition resulting from maltreatment; identification of maltreater.</i>			
b. Nature of maltreatment? (What surrounding circumstances accompany the maltreatment?)			
<i>“Sufficient information” includes circumstances and events associated with maltreatment; includes duration; progress or patterns; details about caregiver behavior associated with maltreatment [substance abuse, extent of self-control, etc] any known response of non maltreating caregiver; explanation for maltreatment; attitudes of caregivers respective of maltreatment.</i>			
	Yes. Information is Sufficient	No. Information is present but not Sufficient	No. Informatio n is not present
c. Parenting disciplinary practices (What are the disciplinary approaches used by the parent, including the typical context?)			
<i>“Sufficient information” includes intent, attitudes and expectations about discipline; purposes for discipline; age appropriateness; self-control while disciplining child; appropriateness and varied methods.</i>			
	Yes. Information is Sufficient	No. Information is present but not Sufficient	No. Informatio n is not present
d. General parenting (What are the overall, typical, parenting practices used by the parent? Do not include discipline)			

<i>"Sufficient information" includes parenting style and history; interest in parenting; ability to parent; attitudes and perceptions toward the child(ren); appropriateness of expectation of the child; sensitivity to child's needs and/or limitations, caregiver protective capacities.</i>			
	Yes. Information is Sufficient	No. Information is present but not Sufficient	No. Informatio n is not present
e. Adult functioning (How does the adult function on a daily basis? Include behaviors, feelings, intellect, physical capacity and temperament)			
<i>"Sufficient information" includes physical, emotional and social development; predominant behavior; mood and temperament; speech and communication; life management; problem-solving, general behavior; daily routines and habits; ability to protect. Adult functioning refers to protective capacity regarding all children in the home.</i>			
	Yes. Information is Sufficient	No. Information is present but not Sufficient	No. Informatio n is not present
f. Child functioning? (How does the child function on a daily basis? Include pervasive behaviors, feelings, intellect, physical capacity and temperament)			
<i>"Sufficient information" includes physical, emotional and social development; predominant behavior; peer and school behavior; mood and temperament; speech and communication; vulnerability; general behavior; daily routines and habits; ability to self-protect. Child functioning refers to information regarding all children in the home</i>			
	YES	NO	
C. Was the information collected sufficient to support FFA decision making? <i>Was there enough depth and breadth in all information collection a) to provide a reasonable understanding of family members and their functioning and b) to support and justify decision making. For safety intervention decisions, the information must be enough to identify, support, reconcile and justify the presence or absence of threats to safety and to inform and justify the kind of safety plan/ safety management that occurs or that a safety plan/ safety management is necessary.</i>			
Comments Regarding Information Collection:			

SECTION IV: FFA Decision Making

Instructions: In this section, the reviewer assesses whether the worker identified adequate information for the case, particularly around impending danger threats. Reviewers are to assess whether the worker documented the essential enhanced caregiver protective capacities associated with the decision that children are safe. Additionally, in Part 3-8, sufficient information as to what they believe are the main diminished caregiver protective capacities that are associated with impending danger and the decision that children are unsafe. The determination of enhance or diminished caregiver protective capacities are primarily related to the documentation for parenting discipline, parenting general and adult functioning. Please reference the "Caregiver Protective Capacities Reference Guide." Please add any comments in the "Comments" section located at the end of this section.

	YES	NO	Cannot Determine- Lack of Information
1. Impending Danger: a.) Did the worker identify Impending Danger at the conclusion of the FFA?			
b.) Reviewer Judgment: Does the information collected indicate Impending Danger in this case? <i>(If the reviewer does not agree, indicate why in the comments section).</i>			
2. Which of the following Impending Dangers were identified? Check all that apply. If an Impending Danger threat has not been identified, leave blank.	Reviewer Identified	Worker Identified	
<i>Living arrangements seriously endanger a child's physical health.</i>			
<i>Family does not resources to meet basic needs.</i>			
<i>One or both caregiver's intend(ed) to hurt the child.</i>			
<i>Child is perceived in extremely negative terms by one or both caregivers</i>			
<i>The caregiver is unwilling or unable to perform parental duties and responsibilities, which could result in serious harm to the child.</i>			
<i>One or both caregivers fear they will maltreat their child and/or are requesting placement</i>			
<i>One or both caregivers lack parenting knowledge, skills, or motivation which affects child safety.</i>			
<i>The caregiver's drug and/ or alcohol use is pervasive and threatens child safety.</i>			
<i>One or both caregivers are violent; this includes Domestic Violence and General Violence.</i>			
<i>One or both parents/ caregivers cannot control behavior.</i>			
<i>Child has exceptional need s which the caregivers cannot or will not meet.</i>			

	YES	NO	N/A
3. Does the documentation in the FFA clearly describe how impending danger threats are occurring in the family?			
4. Are the caregiver protective capacities (diminished/ enhanced) described in documentation associated with parenting and adult functioning?			
	YES	NO	Cannot Determine- Lack of Information
5. Reviewer judgment: Does the reviewer agree with the status of caregiver protective capacities? <i>(If the reviewer does not agree, indicate why in the comment section).</i>			
	Safe	Unsafe	Cannot Determine- Lack of Information
6. Safety Decision:			
a.) What was the worker's safety decision?			
b.) Reviewer judgment: Was the child safe?			
	Yes, child was safe and case was closed	No, child was safe and case was not closed	Not applicable, child was not safe
8. If the safety decision indicated the child was safe, was the case closed based upon decision?			
Comments regarding safety decision-making:			
\			

SECTION V: Safety Planning				
Instructions: In this section, reviewers are to assess the Safety Planning associated with the case. Refer to the “Caregiver Protective Capacities Reference Guide” for reference. Please add any comments in the “Comments” section located at the end of this section.				
	YES	NO	Not Applicable	
A. Did the worker complete a safety plan analysis to determine the least intrusive and most appropriate safety plan for controlling impending danger?				
	YES	NO	Not Applicable	
B. Reviewer judgment: Reviewer agrees with the safety plan analysis developed for the family. <i>(If the reviewer does not agree, indicate why in the comments section).</i>				
C. Safety Plan:	NO	Yes, In-Home Safety Plan	Yes, Out-of-Home Safety Plan	Cannot Determine-Lack of Information
a. Was a Safety Plan developed in this case?				
b. Reviewer judgment: Was a Safety plan necessary in this case?				
	YES	NO	Not Applicable	
D. Reviewer judgment: Was the safety plan sufficient to control the impending danger threats? <i>(If the safety plan was not sufficient, indicate why in the comment section).</i>				
Comments regarding Safety planning: 				

E. How long did it take to complete the FFA process?	
<i>Number of days from assignment for FFA to completion of information collection.</i>	
<i>Number of days from assignment for FFA to completion of documentation.</i>	

Appendix C

Organizational Readiness for SAMS Implementation

Thank you for taking the time to participate in our research study to assess the readiness of your organization to implement SAMS . This survey will assist the research team in assessing the readiness of your county to implement SAMS. It will examine several organizational readiness factors, including:

Change Confidence - whether individuals feel they have the skills and are able to execute the tasks and activities associated with the implementation of SAMS;

Need for Change - whether there are legitimate reasons and needs for implementing SAMS;

Organizational Benefits - whether the organization will benefit from the Implementation of SAMS;

Personal Benefits - whether staff will personally benefit from the implementation of SAMS; and

Senior Leadership Support - whether the organization's leadership and management are committed to and support the implementation of SAMS.

Your participation in this survey is voluntary and your choice about whether to participate will not affect your employment, contracts, or services. We value your honest feedback, and if you choose to participate, your responses will be kept confidential. The feedback received from participants will be used as part of a continuous improvement process and given to the SAMS Steering Committee and SAMS Implementation Committee to support quality training and preparation for your county and counties that are implementing in subsequent rounds.

The information will be used to determine whether there are gaps in communication efforts, as well as identifying additional areas of preparation that are needed to support effective implementation of SAMS. The survey should take less than 30 minutes to complete.

Worker ID

County

*Which title best describes your position?

- Intake Worker
- Child Care Supervisor
- Ongoing Worker
- Child Protective Services Supervisor
- Child Protective Service Worker
- Community Service Manager

- Adult Protective Worker
- Health and Human Service Aide
- YS Worker
- Reception Social Worker
- Contracted YS Worker
- Regional Program Manager
- Social Service Coordinator
- Regional Director
- Intake Supervisor
- Ongoing Supervisor
- Other

How did you hear about SAMS? (Check all that apply)

- Brochures
- Presentations
- "Special Forces"
- Other Literature
- Website
- Training
- Supervisor
- Child Welfare Staff
- Intranet
- Other (please describe)

How prepared do you feel your organization is to make the changes required by SAMS?

- Not prepared at all
- Somewhat prepared
- Prepared
- Fully Prepared
- I don't think our organization needs to make any changes

Change Confidence

I don't have enough information	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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My past experiences make me confident I will be able to perform successfully when SAMS is implemented.

There are some tasks that will be required when we start implementing SAMS; I don't think I can do well.

I have the skills that are needed to make SAMS work.

When we implement SAMS, I feel I can handle it with ease.

When I set my mind to it, I can learn everything that will be required when SAMS is adopted.

I am intimidated by all the tasks I will have to learn because of SAMS.
When I heard about SAMS, I thought it suited my skills perfectly.

I do not anticipate any problems adjusting to the work I will have when SAMS is adopted.

After SAMS is implemented, I am confident I will be able to do my job.

Need for Change

I don't have enough information	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
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There are legitimate reasons for us to make this change.

There are a number of rational reasons for this change to be made.

No one has explained why this change must be made. It doesn't make much sense for us to initiate SAMS.

This change is clearly needed.

The time we are spending on SAMS should be spent on something else.

I think we are implementing SAMS just because we can.

I think there are real needs that make change necessary.

I don't understand how SAMS makes things better than they are now.

As far as I'm concerned, our

organization doesn't have a problem that will be addressed by SAMS.

I am suspicious of the reasons this particular change is being implemented.
SAMS came about after a sound evaluation of West Virginia's current circumstances.

It is critical for us to move in the direction we are moving with SAMS.

Organizational Benefits

I don't have enough information	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree

I think that West Virginia will benefit from this change.

West Virginia is going to be more productive when we implement this change.

When we adopt this change, we will be better equipped to meet children and families' needs.

This change will improve our organization's overall efficiency.

West Virginia will lose some valuable assets when we adopt this change.

SAMS matches the priorities of West Virginia.

Personal Benefits

I don't have enough information	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree

SAMS will disrupt many of the professional relationships I have developed.

SAMS will give me new career opportunities.

When SAMS is implemented, I don't believe there is anything for me to gain.

My future in this job will be limited because of this change.

In the long run, I feel it will be worthwhile for me if the organization adopts this change.

I am worried I will lose some of my status in the organization when SAMS is implemented.

SAMS makes my job easier. The effort required to implement SAMS is rather small when compared to the benefits I will see from it.

Senior Leadership Support

I don't have enough information	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree

Management has sent a clear signal this organization is going to change.

I believe management has done a great job in bringing about this change.

The senior leaders have served as role models for this change.

Top decision makers have put all their support behind this change effort.

This organization's most senior leader is committed to this change.

Every senior manager has stressed the importance of this change.

Our senior manager has stressed the importance of this change.

The organization's senior

leader has not been personally involved with the implementation of this change.

I am sure that our senior leaders will change their mind before we actually implement this change.

I think we are spending a lot of time on this change when the senior managers don't even want it implemented.

What additional information would you like to have about SAMS?

Do you have any concerns about implementing SAMS in your county?

Going forward, what would support you in your work implementing SAMS?

Thank you for taking the time to complete the survey.

If you would like to change any of your responses, use the << button.

If you are ready to submit your survey, use the >> button.

Appendix D

Organizational Climate Scale

Thank you for taking the time to participate in our research study to assess the implementation of SAMS in your county. This instrument will assist the research team in identifying successful strategies to facilitate implementation, identifying barriers to full implementation, and collecting suggestions for improvement.

Your participation in this survey is voluntary and your choice about whether to participate will not affect your participation in implementation projects, eligibility for technical assistance from ACCWIC, employment, contracts, or services that the agency will receive. If you choose to participate, your responses will be kept confidential.

Your responses will be combined with the responses of your colleagues in round one. The combined results of this survey will be shared with the Implementation Committee, Steering Committee, and Special Forces. The goal of this survey is to get your feedback, and to share your feedback with project leadership in order to reduce barriers and facilitate effective implementation in your county and around the state.

County

Position in Agency

- Worker
- Supervisor
- Administrator

Program Area

- Intake
- CPS
- Ongoing
- Other Social Services
- Administration

The first part of the survey is designed to assess the implementation strategies that have been used to facilitate SAMS implementation.

How would you rate the communication and preparation for SAMS prior to training in preparing you to implement SAMS?

Very Ineffective Ineffective Somewhat Ineffective Somewhat Effective Effective Very Effective

How would you rate the training and training materials in preparing you to implement SAMS?

Very Ineffective Ineffective Somewhat Ineffective Somewhat Effective Effective Very Effective

How would you rate the post-training consultation with Special Forces in preparing you to implement SAMS?

Very Ineffective Ineffective Somewhat Ineffective Somewhat Effective Effective Very Effective

How would you rate ongoing consultation with your supervisor in preparing you to implement SAMS?

Very Ineffective Ineffective Somewhat Ineffective Somewhat Effective Effective Very Effective

How could the items you have rated as "ineffective" be improved?

What additional supports would assist you in implementing SAMS as it is designed? (Check all that apply)

- Additional training
- Enhanced supervision
- Desk guides
- Feedback on your performance
- Checklists
- Management support
- Peer-to-peer learning
- Expert consultation
- Other (please describe)

Please describe barriers that you have experienced in trying to implement SAMS. Barriers could be internal to your county or the state, or external to your organization.

Your county is one of the first round of counties to implement SAMS. This process will be repeated in other counties across the state. What should those counties do to support effective implementation of SAMS? Your suggestions could include things that your county has done well, or things that could have made the process run more smoothly.

The remainder of the survey is designed to assess your attitudes about SAMS implementation in your county. For each item, use the buttons below the statement to indicate your level of agreement.

SAMS is compatible with the treatment philosophy of the organization as a whole.

Strongly Disagree Disagree Somewhat Disagree Neither Agree nor Disagree Somewhat Agree Agree Strongly Agree

SAMS is being implemented in this organization as prescribed by the experts.

Strongly Disagree Disagree Somewhat Disagree Neither Agree nor Disagree Somewhat Agree Agree Strongly Agree

Staff who are expected to use SAMS are doing so willingly in carrying out their job duties.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

SAMS is being used “to the letter” as prescribed by its developers.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Local system issues interfered with the implementation of SAMS in this county.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

The “benefits” that have resulted from implementing SAMS far exceed the “costs”.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Staff are adequately trained to use SAMS in this organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Positive consequences occurred at this organization as a result of implementing SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

SAMS is used in a committed way by targeted staff at this organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

This organization’s overall effectiveness has improved as a result of implementing SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Client outcomes have improved as a result of using SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

There was adequate time to plan the details of implementing SAMS at this organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Top administration strongly supports the ongoing implementation of SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Staff get positive feedback and/or recognition for their efforts to use SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Top administrators minimized obstacles and barriers to using SAMS in West Virginia.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Implementing SAMS involved taking a big risk at this organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

This organization set clear and specific goals related to the use of SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

The use of SAMS has been consistent in our county since it was first implemented.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

There are performance-monitoring systems in place to guide the implementation of SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Training and technical assistance were readily available to staff involved in using SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Adequate resources have been available to use SAMS as prescribed.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

The “costs” of using SAMS have far exceeded any benefits that may have occurred.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Staff have been encouraged to express concerns that arise in the course of using SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

SAMS is being seen as a regular part of the services offered to this community.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Efforts are in the works to see that SAMS becomes a permanent part of our organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

It is difficult to attract and/or retain qualified staff needed to use SAMS.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Based on data available, SAMS has been effective in improving services to families.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Many things needed to change at this organization in order to use SAMS as prescribed.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

The effectiveness of SAMS is apparent to stakeholders outside this organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

SAMS is compatible with the professional training of staff at this organization.

Strongly	Disagree	Somewhat	Neither Agree	Somewhat	Agree	Strongly
	Disagree	Disagree	nor Disagree	Agree		Agree

Thank you for taking the time to complete this survey.

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