Factors Affecting Utilization of Four New Child Welfare Programs in Hawai`i

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Abstract

Despite an increased push to utilize evidence-based practice in child welfare, there are several challenges that prevent the implementation and widespread use of evidence-based practices. Some of these are situational and intervention specific, such as lack of fit with local culture and context, and others are inherent challenges in organizational innovation. A growing body of implementation science literature explores these challenges; however, few studies have addressed adoption of innovation in child welfare. This study aims to contribute to implementation research in child welfare by examining factors that are affecting adoption of new interventions in the child welfare system in Hawai`i. In 2015, one practice change and three new programs were implemented as a Title IV-E Waiver Demonstration project with the intention of preventing unnecessary placements in child welfare and increasing permanency for children in foster care for more than 9 months. Two years after their start date, the three programs were utilized at a much lower rate than was anticipated. Based on data from focus groups with caseworkers and past research on implementation and innovation, a survey was developed and administered to assess how certain factors may have affected utilization of the innovations. The final sample included 63 caseworkers and unit supervisors who refer to the new programs. Logistic regression was used to test relationships between referral to the programs within the past month and implementation factors (knowledge, compatibility, relative advantage, risk, workload, time commitment, peer buy-in), and linear regression was used to examine relationships between peer buy-in, peer relationships, and relative advantage. Results showed that risk significantly predicted referrals to IHBS, Wrap and SPAW (IWS) in the past month, and indicated a significant interaction effect between perceived time commitment of the interventions and workload. This suggests workload, time commitment, and perceived risk of the interventions

should be addressed during the implementation of new programs in child welfare, and that the caseworker's social system can be targeted to improve perceived relative advantage of new interventions. Furthermore, future research in this area can inform the uptake and utilization of evidence-based practices in child welfare, which has the potential to enhance services and improve the lives of involved children and families.

Keywords: innovation, evidence-based practice, child welfare, implementation science

Factors Affecting Utilization of Four New Child Welfare Programs in Hawai`i

Supporting the health and well-being of children and families is a national priority (U.S. Department of Health and Human Services, 2015). Having well-functioning child welfare services is an important aspect of achieving this goal, as child maltreatment continues to be a serious issue in the United States. In fiscal year 2015, approximately 3.4 million children were involved in investigations of maltreatment, which indicates a nine percent increase since 2011 (Administration for Children and Families, 2017). Children who are victims of abuse suffer immediate and long-term effects. In the short term, psychological and behavioral problems are frequent, and in young adulthood children who are abused miss more school, are less likely to graduate from college, and are more likely to exhibit aggression and social withdrawal, as well as have issues with police (Lansford et al., 2002).

The Child Welfare Branch of the Department of Human Services is the primary source of protection for abused children. Child welfare caseworkers are responsible for investigating allegations of abuse, making decisions about whether to remove the child from their home, finding short-term and long-term placements for children, providing on-going case management, and pursuing permanency in adoptive homes or with family. Child welfare caseworkers carry a huge amount of responsibility, and their decisions affect the long-term outcomes of children they serve (Strijker, Knorth, & Knot-Dickscheit, 2008). Because the stakes are high, many researchers have examined decision-making practices in child welfare. Unfortunately, most found they frequently are not based in research; furthermore there is little use of evidence-based practices in child welfare (Gambrill & Shlonsky, 2001; Graham, Dettlaff, Baumann, & Fluke, 2015; Lindsey, 1991). This is a concerning reality, and “services provided to children and

families that have little or no evidence of effectiveness" have been framed as an additional risk to abused children (Gambrill & Shlonsky, 2001, p. 79).

In response to such critiques there has been an increased emphasis on the use of evidence-based practice in child welfare (Gilgun, 2005; Howard, McMillen, & Pollio, 2003). However, as many scholars have noted, there also are challenges associated with the widespread dissemination of evidence-based practices. Some have critiqued the notion that evidence-based practices are a good fit for social work practice as whole, because social work requires highly flexible and contextualized approaches rather than "mechanistic" decision-making processes based on standardized protocols (Webb, 2001, p. 57). Even advocates for evidence-based practice sometimes find that what works in one setting doesn't necessarily work in another (Parra Cardona et al., 2012). This could be attributed to a poor fit with local culture, a mismatch with organizational values or systems, historical factors (such as negative experiences with a similar program), or implementation problems. Within child welfare one of the main implementation problems, which is affected by the aforementioned factors, is low utilization rate by caseworkers (Aarons, Hurlburt, & Horwitz, 2011).

Adoption of interventions can be understood in two ways: on an individual level and on an organizational level. On an individual level intervention adoption is typically described as a precursor to implementation (Wisdom, Chor, Hoagwood, & Horwitz, 2014). It is the point at which an individual decides to begin using an innovation. However, on an organizational level, adoption is often described an *outcome* of implementation (see Figure 1 by Chaudoir, Dugan, & Barr, 2013). This is because, in organizations like child welfare, adoption on an individual level occurs after the agency leadership (or policy change) mandates the use of new interventions.

In this scenario, adoption reflects the process of uptake and utilization among the members of the organization, who are generally called "providers" in implementation literature. Seeing adoption as an evolving implementation outcome recognizes the complex, messy, and iterative process of organizational change, wherein members of the organization have fluctuating opinions about and utilization of a new practice, depending upon multiple personal and contextual factors (Aarons & Palinkas, 2007; Van de Ven, Polley, Garud, & Venkataraman, 2008). Increasingly, there is a need for research that considers adoption of evidence-based practice from an ecological standpoint, which examines factors at multiple levels that may be hindering or supporting implementation (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). This is particularly important within the context of child welfare systems, which are large, complex agencies charged with implementing research-based services to support the health and wellbeing of children and families.

Present Study Overview and Outline

The aim of this thesis research is to examine which factors are affecting adoption of four new programs in the child welfare system in Hawai`i. The new interventions are intended to reduce the number of children in foster care either by preventing removal from the home, or promoting permanency for children who are already in the system. They were initiated in January 2015 on O`ahu and in October 2015 on the Hawai`i Island. Semi-annual reports indicate that two years after their initiation three out of the four interventions are significantly underutilized (DHS, 2017). The purpose of this study is to better understand why social workers are or are not using the interventions.

There are various factors that may account for underutilization. Focus groups with child welfare leadership, section administrators, contracted service providers, and line staff resulted in

themes that informed our understanding of implementation barriers and supports, but it was still unclear which factors were having the Hawai`igest effect on adoption. The next logical step to answer this question was a survey of the supervisors and line staff, which drew on findings from prior interviews and focus groups as well as literature on implementation and innovation. The survey addressed child welfare workers' perspective on issues within the community, organization, and innovation. It was intended to contribute to theoretical understanding of implementation of evidence-based practice, as well as yield applied information of direct use to Hawai`i's Department of Child Welfare.

The organization of this thesis proposal is as follows: 1) overview of the need for evidence-based practice in child welfare, 2) description of community, organizational, provider, innovation and patient level factors that affect implementation, with incorporation of research on Diffusion of Innovation (DoI) theory, 3) background on new child welfare interventions in Hawai`i and the impetus for this research, 4) statement of hypotheses, 5) description of method, 6) results, 7) discussion, 8) limitations and 9) avenues for future research.

The Need for Evidence-Based Practice in Child Welfare

Evidence-based practice is widely defined as "the integration of best research evidence with clinical expertise and patient values" (Sackett, 2001, p.1). The necessity for evidence-based practice has been emphasized in all public service sectors including child welfare (Aarons et al., 2011; Aarons & Palinkas, 2007). In many ways this is a positive development as social workers have traditionally relied solely upon "colleagues and supervisors, personal experiences, relevant theory, and authoritative texts" to inform their decision-making (Howard et al., 2003, p. 235). In fact, researchers on child welfare decision making have even claimed that "assignment to foster care approximates a random process across a large population" (Runyan, Gould, Trost, & Loda,

1981, p. 710). Used exclusively, there is evidence that this is a problematic platform for practice. Recent studies on decision-making in child welfare show that many factors unrelated to child safety will influence whether a child is removed from the home (Graham et al., 2015).

There is consistent disparity in child welfare decision-making, with race and income emerging as important predictors as to whether children will be placed in foster custody (Dettlaff et al., 2011). In a stratified national sample of 9,597 children who had received child welfare services discriminant analysis revealed that family income, rather than source of referral or reason for referral, was the primary predictor of placement into foster custody (Lindsey, 1991). Several studies have also shown that race is an important factor in suspecting and identifying maltreatment (Font, Berger, & Slack, 2012). While some argue that racial disproportionality stems from implicit bias and racism (Wells, Merritt, & Briggs, 2009), others, such as law professor Elizabeth Bartholet, argue that disproportionality reflects the fact that "black children are in fact disproportionately victimized by maltreatment" (Bartholet, 2009, p. 871). However, recent research in disproportionality goes beyond comparing the percentages of children in child welfare to percent in the general population. For example, a disproportionality study with a national sample of 1461 children, indicated that race affects perception of harm. Children of black families were more likely to be rated as having a higher level of harm and likelihood of maltreatment despite their actual maltreatment rates (Font et al., 2012). This suggests that case factors, such as confirmed neglect and abuse, *are* important determinants of whether children will be placed in foster custody, but that child welfare decision-making is also highly variable, difficult to predict, and influenced by factors like race and class (Graham et al., 2015).

While increased use of evidence-based practices will not eliminate bias in child welfare, there is potential for it to increase the use of validated assessments and research-driven practice

models to guide decision-making and treatment protocols (Kessler, Gira, & Poertner, 2005). Ultimately, the hope is that evidence-based practice will improve outcomes for children and families. Currently, "best practice" in child welfare (Kessler et al., 2005) is loosely defined, and could mean "practice wisdom, emulating other systems, expert consultants, or professional guidelines" (p. 491). The argument for a transition from "best practice" to "evidence-based practice" is both ethical and fiscal, as the aim is to: 1) make better informed decisions about when to remove a child from his or her family, 2) improve services for families involved in the child welfare system, and 3) utilize public funds for the most cost-effective interventions. Furthermore, there is hope that "culturally competent evidence-based practice" will reduce bias and racism in child welfare practice which is particularly important given the problem of disproportionality of ethnic minorities in foster care (Wells et al., 2009). The next section outlines common challenges in implementing new practices.

Factors Affecting Implementation and Lessons from Innovation Research

Implementation can be defined as "active and planned efforts to mainstream an innovation within an organization" (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004, p. 582). It differs from diffusion, which describes a more passive spread of an innovation, or dissemination, which targets specific groups for an innovation but does not occur within an organization per se (Greenhalgh et al., 2004). Implementation is "proposed as the link between evidence-based practice and positive outcomes" (Odom, 2008, p. 1). Implementation science, the study of integrating research findings with policy and practice, has received considerable attention by major health agencies such as the World Health Organization (2017), the Centers for Disease Control and Prevention (2012), and the National Institutes of Health (2017).

Although implementation science is a relatively new field, there are many insights to be gained from a long history of research on innovation. One of the most widely cited theories of innovation is the Diffusion of Innovation (DoI) Theory, originally developed by Everett Rogers in 1962 (Rogers, 2010). Since the DoI theory was first published, it has been cited in over 4,000 articles (Rogers, 2010), and has been the subject of multiple systematic reviews (Greenhalgh et al., 2005, 2004; MacVaugh & Schiavone, 2010; Meade & Islam, 2006). Innovation research is replete with language and concepts originally published by Rogers, which are sometimes attributed to him and other times not. It has been applied in a broad array of contexts such as sociology, marketing, development studies, health promotion, communication, and organizational studies (Greenhalgh et al., 2004). The reason for this broad application is that many (though not all) of the DoI concepts have proven to be influential in innovation through empirical research (Greenhalgh et al., 2004).

In this section, DoI concepts are applied to "causal factors" which influence implementation at varying levels. The causal factors align with a framework developed by Chaudior and colleagues (2013) who identified constructs in implementation frameworks that occur at micro, meso and macro levels (Damschroder et al., 2009; Durlak & DuPre, 2008). For a visual reference of the framework, please see Figure 1.

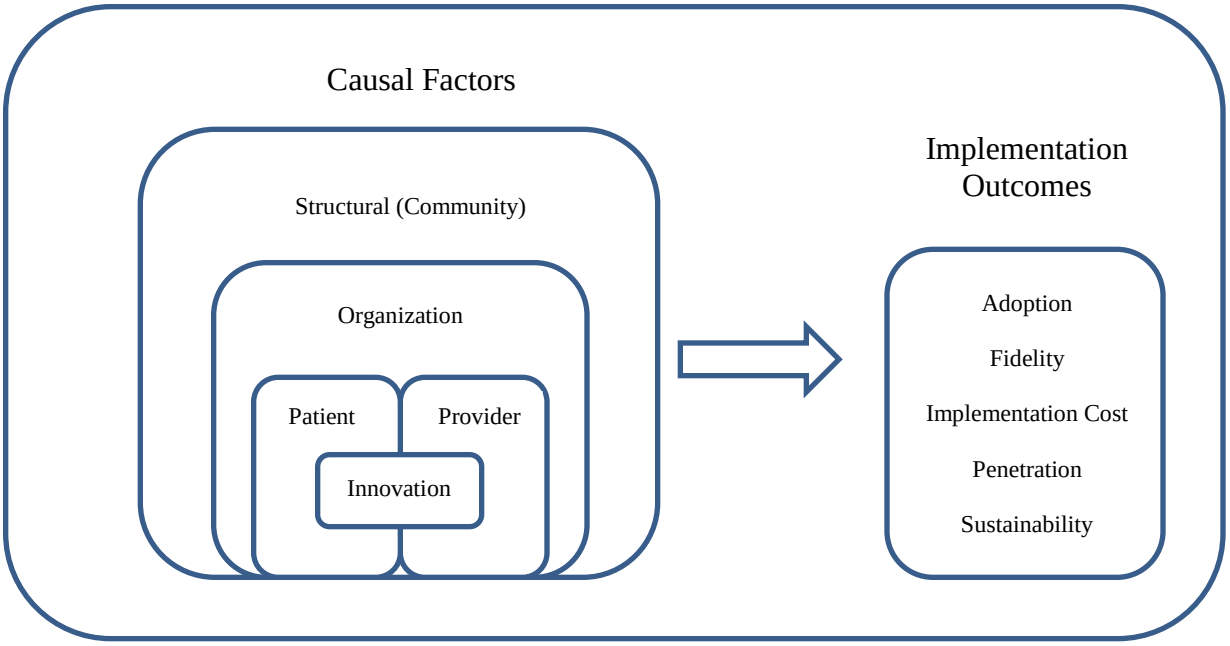

Figure 1: A multi-level framework for implementation outcomes (Chaudoir et al., 2013).

Structural and Community Level Factors

Structural factors, also described as community level factors, include aspects of the physical environment, social environment (such as political or social climate and culture), public policy, economics, and infrastructure (Chaudoir et al., 2013; Durlak & DuPre, 2008). There is evidence that these contextual elements are often ignored or not systematically considered prior to the implementation of evidence-based practice (Hawe, Shiell, & Riley, 2009). In a review of 62 measures to assess factors that affect implementation, only 5 measures addressed community level factors (Chaudoir et al., 2013), despite research that shows they significantly affect implementation (Durlak & DuPre, 2008). Recent research in implementation science posits that poor fit between evidence-based interventions and local context, and little knowledge of how and

when to adapt an evidence-based intervention, are two of the main barriers to adoption of evidence-based practices (Kainz & Metz, 2017).

Adaptation of evidence-based practice to fit local contexts has a natural tension with a desire to maintain fidelity (Parra Cardona et al., 2012). It can be difficult to know which elements of an intervention are crucial, and which elements are crucial to whom. In response to this dilemma there is increasing scholarship on how to design interventions that are amenable to adaptation, as well as how to re-conceptualize fidelity to "privilege function over form" (Domenech Rodríguez, Baumann, & Schwartz, 2011, p. 183). The goal of this work is to reframe fidelity monitoring with increased emphasis on the theoretical basis of the intervention and how that can be realized in a unique system, rather than nearly identical completion of a long list of discrete tasks (Hawe et al., 2009; Judge & Bauld, 2001). If this is realized it will be an important shift in implementation research as there is evidence that culturally adapted interventions are more successful. A meta-analytic review of 76 studies on cultural adaptation showed that culturally adapted interventions targeting a specific group were four times more effective than those that were not, and that interventions conducted in a client's native language were twice as effective as those conducted in English (Griner & Smith, 2006).

An alternative approach to prevent challenges related to disconnect with local culture is the use of culturally grounded interventions. Culturally grounded interventions differ from culturally adapted interventions in that they are *designed* based on the deep structure of a specific culture (Helm & Baker, 2011). One major challenge with this approach is that development of an evidence base for a culturally grounded intervention takes requires significant time and resources that many communities do not have access to. Additionally, it can be difficult to

evaluate culturally grounded interventions as they may target entirely different outcomes and involve different processes that are not captured in conventional metrics and research designs.

The importance of cultural fit is emphasized in the DoI literature, and typically framed in terms of reinvention. Reinvention refers to how an innovation is changed during the uptake within an organization (Greenhalgh et al., 2004; Rogers, 2010). It is very similar to adaptation, although occurs on an informal basis and through social networks. There is strong direct evidence that the more amenable to reinvention an innovation is, the sooner it is adopted (Meyer, Johnson, & Ethington, 1997). This is because participants are able to adopt it on their own terms, modify it to fit their needs, suit their unique skill sets, and reduce risks they see associated with it. Interventions that are more modifiable can be changed to better match community level factors as well as organizational characteristics.

Organizational Level Factors

At the organizational level there are many factors that affect implementation such as organizational culture and climate, organizational fit, resources, communication, training, supervision and teamwork (Aarons & Palinkas, 2007; Chaudoir et al., 2013; Durlak & DuPre, 2008). Perhaps the most straightforward of these factors is resources: time, staff, space, and equipment to roll out and sustain an innovation. Organizations that do not devote additional resources to implementation, or have less "organizational slack" (e.g. additional time, staff and space), tend to have less success (Cummings, Hutchinson, Scott, Norton, & Estabrooks, 2010). For this reason, size is also a factor related to innovation success -- larger organizations tend to have more resources that can be allocated to different areas when needed (Damanpour, 1991).

However, size is not always a proxy for adequate resources, nor does it necessarily indicate predisposition toward implementation success. Large state bureaucracies, such as the

Child Welfare Branch or Adult Mental Health Division, tend to face greater challenges with organizational change (Glisson, 2015; Glisson et al., 2008). Research on organizational culture and climate norms from 1,740 caseworkers across 81 child welfare agencies reflects that child welfare agencies in the United States tend to be rigid, resistant, and bureaucratic (Glisson, Green, & Williams, 2012). Less rigid cultures, defined by more flexibility for caseworkers, more involvement of caseworkers in decision-making, and less red tape were associated with higher caseworker morale, less stress, higher proficiency, and less resistance to innovation (Glisson et al., 2012).

These findings are in line with innovation research outside of child welfare which shows that decentralized decision-making structures tend to promote receptivity to change (Bossert, 1998; Van de Ven et al., 2008). Involvement in decision-making and discretionary power tend to promote participation, and participation is key to adoption and routinization of a new practice. Interestingly, in the ample body of literature on organizational culture and climate (see reviews by Crossan & Apaydin, 2010; Greenhalgh et al., 2004; and James & Jones, 1974) there is little mention of power dynamics directly. This was noted by Greenhalgh and colleagues (2004) as well, who stated that power and internal politics were "conspicuously absent from most empirical work in the service sector" (p. 614). Although centralization and formalization of decision-making are addressed, they are not acknowledged directly as relating to power or influence.

Further consideration of structural empowerment in the organizational literature on innovation could prove to be a useful addition, as structural empowerment is linked with increased work effectiveness, engagement, and organizational commitment (Spence Laschinger, Anne Sabiston, & Kutszcher, 1997; Spence Laschinger, Wilk, Cho, & Greco, 2009). Shared

decision-making is an important element of structural empowerment along with access to opportunity, resources, information, support, formal and informal power (Laschinger, 2012). Formal power is based on specific job characteristics, while informal power relates to influence and connections among peers, leaders and partners outside the organization (Laschinger, 2012). In the little research that has been done on structural empowerment and innovation among social service agencies, informal power was shown to predict innovation (Knol & van Linge, 2009). This emphasizes the role of the social system in bringing about organizational change.

Organizational change is largely dependent upon the social system (Rogers, 2010). Within the social system new ideas "undergo a lengthy period of negotiation among potential adopters, in which their meaning is discussed, contested and reframed" (Greenhalgh et al., 2004, p. 594). The social system is one of the core elements of DoI theory. It is comprised of external influences (such as media or networks outside of the organization) and internal elements (such as relationships with supervisors, leadership, peers, and clients) (Rogers, 2010). Within DoI the social system is the structure upon which information flows, therefore innovation is impossible without the social system, and it is hindered by a social system with fewer or weaker connections among members (Fennell & Warenecke, 2012; Valente, 1996). For this reason, adequate communication channels within an organization are essential to adoption. People share ideas, reflections, experiences, and evaluations of new interventions, which heavily influences which interventions are adopted and which are resisted. Relationships with supervisors are also particularly important, as providers who respect and feel positively toward their supervisors are more likely to receive advice to implement a practice change (Greenhalgh et al., 2004). Naturally, propensity to change and adopt an innovation is also affected by provider characteristics.

Provider Level Factors

Much research has been done on provider characteristics that affect adoption of innovations. Initial DoI research focused on adopter categories, which lumped people into categories of innovators, early adopters, early majority, late majority, and laggards (Rogers, 2010). Although these categories make intuitive sense to many people and are widely used, they are not well supported by empirical research (Greenhalgh et al., 2004). According to Greenhalgh and colleagues (2004) the adopter categories "fail to acknowledge the adopter as an actor who interacts purposefully and creatively with a complex innovation" (p. 598).

However, some individual personality characteristics, such as openness to experience, self-efficacy, and openness to risk taking are related to adoption of a new intervention, as these personality characteristics are associated with less fear of change in general (Anderson & West, 1998). Attitudes toward an intervention have also shown to be predictors of adoption. The Evidence-based Practice Attitudes Scale (EBPAS) was developed to "understand and consider attitudes towards adoption of EBPs of providers who are embedded within the complex organizational context of mental health systems"(Aarons, 2004, p. 61). Drawing on extant literature, Aarons developed the EBPAS around four main constructs: intuitive appeal of intervention, requirement to perform the intervention, openness to new practice, and divergence (e.g., general resistance to the concept of evidence-based practice) (Aarons, 2004). He found that mental health providers who were earlier in their career, such as interns, were more open toward evidence-based practice, as were people who were more highly educated. Additionally, providers were more open to evidence-based practices when the new practices differed minimally from what they were already doing.

The EBPAS has been administered with multiple groups (mental health service providers, clinicians, and physical therapists), but it has yet to be applied to adoption of new practices. An important critique of the EBPAS scale is that it does not address the issue of compatibility, or fit with local culture and context, which may be one of the main reasons for resistance to evidence-based practices. Similarly, the scale does not address concerns that manualized treatments would negatively affect rapport with clients or fail to address the complexity of individual cases. Providers often feel it is impossible to address the unique dimensions of each client's individual circumstances with an evidence-based practice.

Client Level Factors

Most studies on innovation and implementation of evidence-based practice do not recognize or consider factors at the client level. In a review of 62 measures of health innovation implementation only four took into consideration client (or patient) level factors (Chaudoir et al., 2013). Client level factors are typically addressed in efficacy studies rather than implementation studies, despite the argument that "patient-level variables are important to examine as predictors, because they inevitably impact the outcomes of implementation efforts" (Chaudior, p. 3). Factors such as time commitment to participate, increased risk to the client based upon participation, and whether the client is participating on a voluntary nature or a mandated nature all affect the success of the implementation (Durlak & DuPre, 2008).

Innovation Level Factors

Innovation level factors include unique elements about the program itself (theoretical basis and intervention components), evidence about an innovation or program's efficacy, as well as how the program is perceived by potential adopters (Chaudoir et al., 2013). Although there has been relatively little focus on innovation level factors in implementation research (Durlak &

DuPre, 2008) this is a widely researched topic in innovation literature. DoI theory focuses heavily on five characteristics of the innovation and their relationship to adoption: relative advantage, compatibility, complexity, trialability, and observability.

Relative advantage. Relative advantage refers to the belief that the current program or innovation is better than the program it supersedes (Rogers, 2010). Innovations that potential users perceive as clearly better than the practices they replace are accepted and utilized more quickly and easily (Meyer et al., 1997; Premkumar, Ramamurthy, & Nilakanta, 1994). Relative advantage is generally viewed as an essential factor, but not the only factor that influences adoption. Greenhalgh and colleagues (2004) described, "If potential users see no relative advantage in the innovation, they generally will not consider it further; in other words relative advantage is a *sine qua non* for adoption. Nevertheless, relative advantage alone does not guarantee widespread adoption." (p. 594).

Compatibility. Rogers (2010) described compatibility as "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (p. 15). It is connected with factors at each ecological level because community level, organizational level, and provider level factors are all involved in shaping potential adopters norms, culture, values and perceptions of need. Compatibility has been shown to be an important factor in diffusion of new programs in a variety of health care contexts (Aubert & Hamel, 2001; Denis, Hébert, Langley, Lozeau, & Trottier, 2002). In child welfare services interventions, compatibility will likely increase if the new program meets the perceived needs of children and families, if it makes sense given local culture and context, and if implementation doesn't require a significant shift in organizational norms.

Complexity. Innovations that are simpler to understand and simpler to use tend to be adopted more readily (Denis et al., 2002; Meyer et al., 1997). Rogers (2010) defined complexity as "the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 15). The key words here are "perceived" and "relatively." Within child welfare, decisions to implement new programs are rarely made by the people who will end up using them in day-to-day practice. What administrators perceive to be relatively easy or manageable in theory may be quite complex or onerous to the caseworkers during actual use, particularly if it is added without adjustment or streamlining of their existing responsibilities. In addition to workload adjustment during implementation, perception of complexity can be reduced by demonstration and by breaking the intervention into practice elements that are adopted incrementally (Greenhalgh et al., 2004).

Trialability. Trialability refers to the user's ability to test an intervention before full adoption (Rogers, 2010). Providing opportunities for potential adopters to gain experience with an innovation (before fully committing to it) tends to increase the adoption rate (Greenhalgh et al., 2004). But, for reasons described above, this is rarely an option in large public service agencies where decisions are made on a broad organizational level, and caseworkers are expected to adopt interventions that are essentially chosen for them.

Observability. Rogers (2010) defines observability as "the degree to which the results of an innovation are visible to others" (p. 16). There is evidence that observability significantly affects the rate of adoption (Denis et al., 2002; Greenhalgh et al., 2004), but it isn't always positive. Just as visible and unamHawai`iuous positive outcomes increase adoption, visible negative outcomes (whether they are fully attributable to the innovation or not) can significantly hinder implementation.

Risk. Risk is not one of the five "standard attributes" of innovations that are typically examined in DoI research (Greenhalgh et al., 2004, p. 597). However, there is evidence that if a potential adopter views an innovation as highly uncertain in the outcome he or she will be less likely to adopt it (Meyer et al., 1997). Perceived risk is an essential element to consider in child welfare intervention implementation research, as one of the core responsibilities of caseworkers is to ensure safety for children in vulnerable and often dangerous circumstances.

Summary

The purpose of this literature review has been to provide a broad overview of 1) the need for evidence-based practice in child welfare, 2) the challenges associated with evidence-based practice implementation, and 3) factors at four ecological levels that impact the implementation process and rate of adoption. In the next section I describe the current thesis project along with background, hypotheses, methods, limitations, and a timeline for my thesis defense.

Hawai`i IV-E Waiver Demonstration

In 2015 Hawai`i's Department of Human Services (DHS) initiated four new innovations in the child welfare system under the IV-E Waiver Demonstration program. Title IV-E Waivers from the Children's Bureau (2016) support the increased utilization of evidence-based practice by allowing more flexibility in the use of federal funds. They provide an opportunity for state run child welfare agencies to test new and innovative approaches or incorporate existing evidence-based practices (Children's Bureau, 2016). As described earlier, there is emphasis on the latter, as evidence-based practices are increasingly promoted to improve services to children and families (Gilgun, 2005; Howard et al., 2003).

In 2017, there were 29 states involved in Waiver demonstrations. Because of Hawai`i's unique geographical and cultural make up certain factors are more essential considerations in

implementation. For example, in Hawai`i culturally appropriate interventions are of particular importance because of the multicultural diversity within the state. Currently, there is no single ethnic majority in Hawai`i, but there are five main ethnic groups: Native Hawaiians, Caucasians, Filipino Americans, Japanese Americans, and Chinese Americans (Okamura, 2008). However, as Okamura (2008) points out, "decades of substantial intermarriage have resulted in considerable racial and ethnic mixtures within all of those groups that are obscured by categorical terms such as 'Filipino American'" (p. 22). In the 2015 census 24% of the population in Hawai`i identified as multiracial, and 26% spoke a language other than English at home (U.S. Census Bureau, 2016).

The cultural traditions within Hawai`i are varied, layered, and still evolving. In their 2013 report, the Department of Human Services noted "growth in the number of Pacific Islanders, particularly migrants from Micronesia" across their services (p. 28). While the multicultural diversity of Hawai`i can and should be seen as a positive attribute, there are also unique challenges that certain ethnic groups face in Hawai`i. Some immigrant populations, such as Micronesians and Samoans face frequent discrimination and negative stereotyping as well as challenges related to poverty (Okamura, 2008). For immigrants from the Republic of the Marshall Islands, the detonation of 67 nuclear bombs between 1946 and 1958 has translated to generational health problems and historical trauma. The effects of this tragedy are still playing out today and influence the circumstances under which Micronesians come to Hawai`i, along with their health status when they arrive (Tsark & Braun, 2007).

Native Hawaiians also face a variety of issues which are increasingly being understood from a lifecourse perspective, taking into consideration forced assimilation, discrimination, and multi-generational poverty. Within the child welfare system disproportionality of Native

Hawaiians is a major issue. According to the Department of Human Services "50% of the children in foster care are Native Hawaiian or part Hawaiian with another 17% of 'mixed' ethnicity" (Abercrombie, McManaman, & Maehara, 2013, p. 28). The percentage of Native Hawaiian children in the child welfare system is particularly high considering the fact that less than 20% percent of the population in Hawai`i identifies as Native Hawaiian (Okamura, 2008).

The geographical context of Hawai`i is an important consideration in the implementation of the IV-E Waiver demonstration programs. Hawai`i is an archipelago comprised of eight islands, with the majority of the population on O`ahu (pop. 953,207) followed by Hawai`i Island, which is commonly referred to as the Hawai`i Island (pop. 186,738) (U.S. Census Bureau, 2016). These are the only islands involved in the Waiver demonstration. On the Hawai`i Island (because it is significantly larger) there are two Waiver demonstration sites: East Hawai`i (Hilo) and West Hawai`i (Kona). Each of the three demonstration sites, child welfare branches on O`ahu, East Hawai`i and West Hawai`i have unique geographies, populations, and organizational cultures that will and do affect how implementation of the four interventions occurs at each site. Having three implementation sites across two islands vastly increases complexity of the implementation process. Another factor that increases complexity is that this Waiver demonstration includes four interventions. As described above, more complex innovations tend to be more difficult to implement. Details on Waiver interventions and the goals of the new programs are described below.

The IV-E Waiver Interventions: CRT, IHBS, Wrap and SPAW

The four new innovations include crisis response teams (CRT), intensive-home based services (IHBS), family wraparound services (Wrap) and safety, permanency and well-being (SPAW) roundtables. Three of these are evidence-based practices (IHBS, Wrap, and SPAW)

with varying levels of evidence, and one is a practice change that is currently being evaluated for effectiveness (CRT). These interventions are intended to address two groups of children involved in child welfare services which have been called "short stayers" and "long stayers" (Department of Human Services, 2014).

Short Stayer Interventions

Short stayers are described as children who are involved in child welfare services "who are likely to be placed into foster care for fewer than 30 days" (DHS, 2014, p. 5). The need for short stayer interventions was indicated by the fact that in fiscal year 2012, 34% of all children placed in foster care were returned to their birth parents within five days of being removed, and 47% were returned within 10 days (DHS, 2014).

The rapid removal and return of children to their birth parents prompted the question of whether those children needed to be removed from their families in the first place. Removing a child unnecessarily can be a traumatic experience for both child and parents (Littell & Schuerman, 2002). Therefore, two prevention efforts, CRT and IHBS were designed to help keep children in the home when possible. CRT, in a sense, is the first line of defense. It is not an evidence-based practice per se, but rather an improvement on the state's crisis response system. Before CRT was implemented, crisis calls were responded to either by a social worker or a social service assistant (SSA). SSAs responded when a social worker was not available, such as after business hours. SSAs were not able to conduct investigations, develop safety plans to keep kids in the home, or make determinations about child welfare. Therefore, SSAs often had to remove the child before a thorough investigation was done, and at times the removal was unnecessary. Furthermore, the response times were variable. CRT changes crisis response by requiring that a social worker with decision-making ability is on call 24 hours a day and that they

respond to all calls from schools, police or hospital with imminent risk of placement within two hours of the initial call.

CRT differs from the other three interventions in important ways. It is the only Waiver program that is currently oversubscribed (Department of Human Services, 2016), and it is the only intervention that does not involve an outside service provider. When referrals are made, the statewide intake communicates with the child welfare service caseworker directly, and the caseworker is to respond within 2 hours. Another important difference between CRT and the other interventions is that the determination to "dispatch" CRT is made by statewide intake, and that is the end of their involvement with the case; therefore, referral makes no real difference to them in terms of time commitment. West Hawai`i is the only site where CRT referrals have been less than projected.

Children that are responded to by CRT with high risk factors may be eligible for intensive home based services (IHBS). The purpose of IHBS is to provide intensive family preservation services to high-risk families. Primary elements of the model are: contact with the family in crisis within 24 hours, small caseloads for therapists, 8-10 hours of in-home family based treatment per week for 4-6 weeks, and provision of concrete services and counseling (Al et al., 2012). IHBS is based on the Homebuilders model for intensive family preservation services that was developed in 1974 in Washington state (Smokowski & Wodarski, 1996). The model has been disseminated widely, and has very strict fidelity monitoring. A review of Homebuilders research found that programs with high fidelity to the Homebuilders model significantly reduced out of home placement, while those with low fidelity had no effect (Kirk & Griffith, 2004). In Hawai`i, IHBS is a contracted service that is provided by Catholic Charities on O`ahu and West

Hawai`i, and P.A.R.E.N.T.S. Inc. in the East Hawai`i, which are both monitored for fidelity and trained by the Institute for Family Development in Washington.

While strict fidelity to the model has shown to be an important element in achieving positive effects in past research, in Hawai`i it also creates barriers for utilizing the program. Based on focus groups, one of the Hawai`igest barriers to utilization seems to be the requirement to have the perpetrator of abuse in the home (Department of Human Services, 2016). Caseworkers in Hawai`i often remove the perpetrator as a way to ensure child safety, but the Homebuilders model requires that the abuser and abused child are both in-home during the therapy to provide the most contextualized treatment experience possible and to engage the perpetrator in treatment (Littell, 2001). In 2017 IHBS was at 35% of its projected cases on O`ahu and the Hawai`i Island, and was encountering a cyclical capacity problem as IHBS therapists were leaving their positions, and then new therapists were not able to take cases if they have not finished the strict and lengthy training protocol required by the Institute for Family Development.

Long Stayer Interventions

The Hawai`i Department of Human Services (2011) defines long stayers as children who have been in foster care for nine months or longer. DHS (2011) described that the longer children are in foster care the more difficult it is to either reunite with family or find permanent placement, but the reason for nine months (rather than 6 or 7 months for example) is not made clear in the Waiver proposal. Characteristics of long stayers in Hawai`i mirror samples from other states in that they tend to have more incidence of mental health issues and other disabilities, that they have more risk factors at home, and that they typically have multiple placements resulting in poor continuity of care (Akin, 2011). In a national sample of 3,351

children in foster care, one out of four remained in foster care for the duration of the study (42 months) or exited without permanency (Akin, 2011). The goal of the long stayer interventions, Wrap and SPAW, is to promote permanency, either by reunification with family or by adoption or legal guardianship.

Wrap, or family wraparound, is an option for long stayers who may potentially reunite with their family. There are ten essential elements of Wrap which emphasize that services are community based, culturally tailored, strengths-based, team-driven, flexible, collaborative, and based on formal and informal partnerships. A meta-analysis of pre-post, quasi-experimental and randomized controlled trials on Wrap show improved reunification outcomes for children involved in Wrap services in various states (Bruns & Goldman, 1999). In Hawai`i, Wrap services are provided by Epic `Ohana and consist primarily of a facilitated monthly meeting with family and relevant supports. Wrap services through the Waiver are underutilized at 54% of their projected cases.

SPAW, safety, permanency, and well-being roundtables, differs from Wrap in that it serves children after parental rights have been terminated, or are in the process of being terminated, so it focuses on adoption or legal guardianship. SPAW is a modified version of the Casey Permanency Roundtables which aims to break down systemic barriers while promoting child or youth well-being (Abercrombie et al., 2013). The SPAW roundtable is typically a single meeting that brings together key professionals, consultants, and service providers involved in a youth's case. The intention of the meeting is to break systemic barriers, come up with innovative and realistic solutions, and develop an action plan that can be followed up on by the SPAW participants (Davis et al., 2013). The SPAW meeting is led by a SPAW facilitator, and organizing a SPAW meeting can take several months.

Research on the Casey Permanency Roundtable, which SPAW is modeled after, found that out of 500 children who participated in the roundtable in Georgia 31% achieved permanency within one year (O'Brien, Davis, Morgan, Rogg, & Houston, 2012) and 50% within two years, which is significantly higher than average rates (Davis et al., 2013). Certain children were less likely to achieve permanency, such as older participants (ages 13-18), those with more severe mental, emotional and behavioral health needs, and children with siblings (O'Brien et al., 2012). In Hawai`i, SPAW is underutilized, and at 46% of its projected cases. However, SPAW had significantly higher projections than Wrap, which has a similar framework and serves a similar population.

Preliminary Research: Focus Groups and Interviews

As part of the Waiver evaluation team I have had the opportunity to visit each of the Waiver sites and gain an understanding of some of the unique implementation barriers. My personal involvement with the Waiver project began in August 2015 when I joined the evaluation team as a graduate assistant. The evaluation team is comprised of an outcomes team which focuses on evaluating effects on involved children, and a process team which looks at implementation outcomes such as workflow, fidelity and adoption. I am part of the process team and therefore participated in all of the interviews and focus groups as well as site visits. Our focus groups and interviews were completed between February and June 2016. We interviewed Waiver leadership, service providers and line staff.

Table 1

Process Evaluation Interviews and Focus Groups (DHS, 2016)

Participant Title	Island	Method	Date
Title IV-E Waiver Demonstration Project Manager	O`ahu and Hawai`i Island	Interview	2/16/16
Former Process Evaluation Principal Investigator	O`ahu and Hawai`i Island	Interview	2/18/18
2 Section Administrators	Hawai`i Island	Interview	2/22/16
2 Assistant Program Administrators, 3 Section Administrators	O`ahu	Focus Group	3/4/15
Acting Program Development Administrator	O`ahu and Hawai`i Island	Interview	3/10/16

IHBS Program Administrator, IHBS Supervisor	O`ahu	Interview	3/15/16
2 Wrap Supervisors	O`ahu	Interview	3/18/16
SPAW Project Director, SPAW Program Manager	O`ahu	Interview	3/29/16
CRT Section Administrator, CRT Unit Supervisor	O`ahu	Interview	3/30/16
CWS Unit 1 Line Staff and Unit Supervisor	O`ahu	Focus Group	4/7/16
CWS Intake Unit Line Staff	O`ahu	Focus Group	4/7/16
Court – Faye Kimura	O`ahu	Interview	4/15/16
CWS West Hawaii Units 3, 4, & 5	O`ahu	Focus Group	5/9/16
CWS Line Staff Hilo Units 1,2, & 3	Hawai`i Island	Focus Group	6/6/16
Parents Inc. (IHBS provider, Hilo)	Hawai`i Island	Focus Group	6/6/16
CWS Line Staff Kona Units 1 & 2	Hawai`i Island	Focus Group	6/9/16

Within these focus groups there were implementation barriers that were unique to each intervention. Based on focus group findings, one of the main barriers to CRT implementation is that they have difficulty meeting the two-hour response time due to covering a large geographic area with few staff. Some barriers to Wrap referrals include high time commitment on behalf of the child welfare caseworkers, and belief that family reunification will not improve a child's outcomes because the parent(s) is not willing or able to provide better care than they did when the child was removed (DHS, 2016). One of the unique barriers to SPAW referral that surfaced during focus groups is that it can make caseworkers feel "put on the spot". Part of the SPAW process is to review case decisions and actions to identify potential avenues to promote permanency, and that kind of close review can seem scrutinizing rather than helpful to caseworkers (DHS, 2016). In addition to unique barriers to interventions, there were also implementation barriers that emerged as themes across interventions. Those themes are summarized as constructs in Table 2, with quotes from focus groups and interviews.

Table 2

Focus group findings on implementation barriers

Theme	**Example quotes from focus groups and interviews**
Knowledge of intervention purpose	"Waiver … See I don't know what that means" "The difference between Wrap and SPAW is that with Wrap you have to meet every month." "The only difference is when we send out CRT we click a box. There's not an imminent placement indicator so in the narrative we just say 'placement is imminent.'"

	"I know what Wrap is, that's the one where we have to do the CANS."
Compatibility with local contexts	"Handouts in the manual for some of the interventions just don't work for families that grew up speaking Pidgin, because of reading level and language…" "Maybe IHBS is a better fit for policy and practice in Washington." "We [caseworkers in Hawai`i versus in Washington] have different ideas about what a safe home looks like." "Families ask, 'what do you want me to write?'… for a Chukeese family some of the words and concepts don't translate."
Relative advantage	"We left the Wrap meetings and there were some options brought up, but in the end, nothing was helpful. For these particular cases we had been there, done that." "I don't want to say it was a mistake, but the IHBS model has limitations to servicing the families we would like to, because the restrictions are so narrow for the types of cases we're referring." "CRT makes no difference here. We were already focused on placement prevention because we have a shortage of foster homes already."
Risk	"If there is a death case with an unknown perp, but there is another kid in the house, we're learning that IHBS isn't good because they are mostly going to work on parenting… and there is only so much you can do with parenting." "The child is diagnosed with autism, Mother committed suicide in front of the kid, Dad has mental health challenges, he's getting babysitters from the pier… I'm fearful that when we reunify Dad's going to fail and we have an extremely vulnerable child."
Workload	"We all know where rollout has stalled and why. We have all asked to take things off of workers' plates in order for them to do this, and that hasn't happened." "We are, in effect right now, burning the candle at 2 ends. We've been decimated by vacancies." "These guys are dying and we're saying, 'refer to Wrap and SPAW.'" "I feel like I have to be constantly vigilant… I'm afraid that if I take time off things will fall apart."
Time commitment	"I don't like SPAW because I find myself doing most of the majority of the tasks. I don't have time to follow up because I have work from other cases. It's added work." "Bottom line – have enough staff or get rid of some things." "We were afraid to have this kind of a format [for SPAW] because a lot falls on the worker." "I DO NOT have time to spend an entire day with a single child [for Wrap]."
Peer relationships	"I'm the only person in the office who has done a Wrap and my experiences have made it such that no one else wanted to do the Wrap." "This guy in my unit doesn't do the CANS because he doesn't feel like he's going to use it. He just says, 'I don't know how useful it's going to be.' But I haven't done it yet so take what I say with a grain of salt." "There was another case in our unit where Wrap was really helpful, because historically we fight with DOH all the time. This got them to start working together."
Peer buy in	"Here, we work more closely, we have to." "When she and I left that meeting, we were high fiving, thinking, oh my God we would have never identified that resource."

These focus group findings, combined with literature on implementation and innovation, provide insight as to why three of the four Waiver interventions have not been widely adopted by caseworkers. Despite the fact that projections for some interventions may have been overestimated, there is general agreement that at least 3 of the 4 interventions were underutilized (DHS, 2017). Based on literature review, coupled with focus group findings, factors that seem to be affecting utilization of the Waiver programs across all four interventions include: knowledge of the interventions purpose, workload, time commitment, relative advantage of the new intervention, compatibility with local context, risk, and peer influences. The purpose of this research is to examine how those factors have affected innovation. The relationships I anticipate are described in the hypotheses below.

Present Study Hypotheses

H1: The association between knowledge of the intervention's purpose and utilization will be dependent upon perceived compatibility of the intervention with the local context.

H2: The association between relative advantage and utilization will be dependent upon perceived risk to the child.

H3: The association between high workload and utilization will be dependent upon perceived time commitment of the intervention.

H4: The association between peer buy-in and relative advantage will be dependent upon positive relationships with peers.

Method

Participants and Procedures

All of the section administrators, unit supervisors, and caseworkers involved in the Waiver were invited to participate in the survey, which was distributed online (N = 100). The

survey was administered utilizing the Survey Monkey platform. After the survey was sent to participants via email, members of the process evaluation team visited each Waiver site (Kapolei and Honolulu offices on O`ahu as well as Kona and Hilo offices on Hawai`i Island) to assist with any challenges or technical difficulties that the staff might have while taking the survey, and to remind and encourage participants to complete it. There was no monetary compensation for completing the survey. Of the 100 caseworkers invited to participate 89 initiated the survey. Two did not consent to participate, and two moved through the survey without responding to any questions, leaving us with 85 valid responses. Out of the 85 responses, 5 were section administrators, 14 were unit supervisors, 64 were line staff, and two did not describe their position.

Inclusion and exclusion criteria. Only line staff and unit supervisors (*n*=78) are included in the findings because people in those positions have the capability to refer to Waiver programs. Intake workers, who refer exclusively to CRT were excluded from the analysis as examination of the referral data suggested that CRT differed significantly from the other programs. As described in the background section, CRT is not a new evidence-based program per se, but rather, an internal practice change to the crisis response system. Referring to CRT differs from referring IHBS, Wrap and SPAW in important ways. When intake workers refer to CRT, they do not need to work with outside agencies, and intake workers do not have to continue to work with the service providers post referral, which means they face no greater time commitment or workload if they refer. The referral patterns are vastly different as well. Within the sample, all six intake workers had referred to CRT in the past month (100% compared to 38%, 33% and 26% for IHBS, Wrap and SPAW respectively), and referrals ever differed vastly

as well, as summarized in Table 1. IHBS, Wrap and SPAW followed similar trends, while referrals to CRT were vastly different.

Table 3

Unit supervisor and line staff referrals ever to each intervention

	Min	Max	Mean	*SD*	*n*
CRT	12	127	60.67	45.85	6
IHBS	0	15	2.48	2.48	27
Wrap	0	10	1.82	1.82	49
SPAW	0	15	2.29	2.29	49

Because of these differences, results only focus on referrals and responses to questions related to IHBS, Wrap or SPAW, collectively referred to as IWS, and intake workers were removed from the analyses. After the six intake workers were removed, there were 72 respondents, but 9 of them did not enter data on the IWS referrals, or IWS constructs (peer buy-in, compatibility, knowledge, etc.) and therefore they were removed from the sample. In the end, 63 respondents were included in the study.

Participant characteristics. The majority of the sample worked on O`ahu, carried a caseload with an average of 29 children (although there was significant variation), and had a master's degree in social work or another related field. Respondents were primarily female, and had worked for child welfare services for an average of 9.7 years. There were a large number of multi-ethnic individuals, which reflects the diversity of Hawai`i (Okamura, 2008). Sixty-four percent of the respondents identified a single ethnic identity (*n*=38), 14% identified with 2 or more ethnic identities (*n*=9), 19% identified with 3 or more ethnic identities (*n*=12), and 6% did not answer, or selected "other" without further explanation (*n*=4). For more details on participant characteristics, please see Table 4.

Table 4

Participant Characteristics

	n (%)	*M (SD)*
Total participants	63 (100%)	
Position		
Unit supervisor	13 (21%)	
Line staff	50 (79%)	
Location		
O`ahu	36 (57%)	
East Hawaii	16 (25%)	
West Hawaii	11 (18%)	
Carries a caseload		
Yes	53 (86%)	
No	16 (14%)	
Caseload characteristics		
Number of children		*M* = 29.0 (*SD* = 16.7)
Number of families		*M* = 15.0 (*SD* = 9.2)
Highest level of education attained		
Bachelor's degree	24 (39%)	
Masters in Social Work	18 (29%)	
Masters in a related field	20 (32%)	
Experience		
Years at CWS		*M* = 9.7 (*SD* = 7.6)
Years at DHS		*M* = 10.2 (*SD* = 8.5)
Years at another agency that serves children		*M* = 5.5 (*SD* = 6.3)
Age		*M* = 44.5 years (*SD* = 12.9)
Gender		
Female	49 (79%)	
Male	8 (13%)	
Prefer not to say	5 (8%)	
Ethnicity[1]		
White (Caucasian)	32 (51%)	
Japanese	13 (21%)	
Hawaiian or Part Hawaiian	14 (24%)	
Chinese	14 (22%)	
Filipino	9 (14%)	
Hispanic/Spanish origin	3 (5%)	
American Indian	3 (4%)	
Samoan	2 (3%)	
Other Pacific Islander	2 (3%)	
Unable to determine	3 (5%)	
Other[2]	5 (8%)	

[1] Respondents were able to select all ethnic and racial categories that applied, and 36% of respondents selected more than one ethnic identity. Therefore, the categories do not add up to 100%.
[2] Participants that selected "other" did not specify an ethnicity.

Measures

A survey that addressed the study hypotheses was developed by the process evaluation team as part of the Waiver evaluation. All of the items were either written by the author and then reviewed by the evaluation team and Waiver leadership, or written collectively by the process evaluation team. The survey was approved by the University of Hawai`i Internal Review Board (IRB) as part of the Waiver evaluation team's annual IRB renewal process. Prior to administration, it was sent to the current director of the Waiver implementation who agreed to its dissemination without significant edits.

The survey questions were geared towards social workers who provide direct care to families, and they addressed aspects of the work environment and perceptions of the Waiver interventions. Table 3 shows each of the questions listed by construct. They included things like, "I have received enough information about IHBS to understand its overall purpose" (example knowledge question) and "I have confidence that referring to IHBS will not compromise the safety of the child" (example risk question). Most construct scales had 3 items each (see Table 5) and were specific to each intervention.

Table 5

Survey items organized by construct

Construct	**Questions**	**# of items**
Knowledge of intervention purpose	It is clear how IHBS is meant to help children and families. IHBS trainings made the need for the intervention clear to me. I have received enough information about SPAW to understand its overall purpose. I am not sure which cases should go to IHBS. The main goal of IHBS is not clear to me.	4
Compatibility with local contexts	*The eligibility criteria for IHBS are a barrier for matching the service to the families that need it. The IHBS intervention does not meet the needs of children locally. The IHBS assessments do not match local family contexts.	3
Relative advantage	IHBS has improved our ability to help families compared to what we used to do. The IHBS intervention is not better than our old way of doing things. I believe IHBS can help children and families.	3

Risk	I have confidence that referring to IHBS will not compromise the safety of the child.	3
	I worry that IHBS increases risk to children.	
	IHBS decreases risk to children overall.	
Workload	*My workload has been adjusted as new responsibilities or duties are added.	3
	My job responsibilities keep me from getting sufficient rest.	
	Even if I work overtime, I cannot finish all of my work.	
Time commitment	IHBS requires a Hawai`i time commitment.	3
	Using IHBS makes little difference in terms of time commitment.	
	IHBS referrals don't happen because of time constraints.	
Peer relationships	I feel free to share opinions with people in my unit.	3
	I am close to people in my unit.	
	I do not trust advice from people in my unit.	
Peer buy in	My co-workers don't think IHBS helps children and families.	3
	People in my unit have had really bad experiences with IHBS.	
	My co-workers have had successful experiences with IHBS.	
Utilization	I have referred to IHBS approximately __ times ever.	2
	I have referred to IHBS approximately __ times in the past month.	
Self-described barriers	If there are any barriers to IHBS utilization you think we should consider that were not already addressed, please describe them here:	1

Note: IHBS is used as an example intervention, but these questions will be applied to all four interventions.
*Removed from composite values for each construct due to significant reduction in Cronbach's alpha when included.

As participants could be involved in 0-3 interventions it was possible for them to answer all (20 questions for 3 interventions) or none of the intervention questions. The survey had a skip pattern so that participants only answered questions about Waiver interventions to which they could make referrals. Questions meant to address organizational context, such as workload and teamwork, were not intervention specific and therefore were only answered once by all of the participants. The responses to these items were on a Likert-type scale, generally ranging in values from 1-5 that correspond levels of agreement. There was one open ended question which asked: "If there are any barriers to IHBS utilization you think we should consider that were not already addressed, please describe them here." There were additional items on the survey that were intended to be used for program evaluation purposes but not for this thesis research. Responses to those items were not analyzed in the current study. A copy of the full survey can be found in Appendix A.

Responses to questions for IHBS, Wrap and SPAW (IWS) were combined because the aim of this study is to understand how factors affect utilization of innovations in child welfare rather than how they affect unique aspects of each intervention.[3] Furthermore, the number of workers who could refer for each intervention was fairly small (IHBS n = 29, Wrap n = 49, and SPAW n = 49) so if there are intervention specific differences, they may not be detectable in this sample. The process of combining responses to create IWS variables for each construct went as follows: 1) I examined internal reliability of the items within the constructs and removed items if necessary (described more fully below), 2) I created a mean score for each composite variable (e.g. SPAW knowledge, SPAW compatibility, SPAW risk, etc.) for each participant, 3) I created a mean IWS score for each construct by adding each composite variable (SPAW knowledge + Wrap knowledge + IHBS knowledge) and dividing by the number of interventions each participant participated in (in this example it would be 3). This resulted in an IWS score for each construct (e.g. IWS knowledge, IWS compatibility, IWS risk, etc.).

To test internal reliability I used Cronbach's alpha, α, because it is the most common test of reliability among items (Field, 2013). Most variables were in an acceptable range (with α above .7), but two scales had an item that dramatically reduced the alpha, which prompted me to examine whether the item differed conceptually from the other items in the scale (Field, 2013). I found that the items in question *were* conceptually different, and decided to remove one item from workload, and one from compatibility. Initially, the compatibility with local contexts scale consisted of three questions. The two that were kept ("The IHBS intervention does not meet the needs of children locally" and "The IHBS assessments do not match local family contexts") differ meaningfully from the item that was removed ("The eligibility criteria for IHBS are a barrier for matching the service to the families that need it"). While the two that were kept

[3] Results of the logistic regression for Wrap and SPAW separately can be found in Appendix B.

address "match" with local contexts more broadly, the item that was removed is very specific to eligibility criteria. Similarly, the item removed from the time commitment scale was conceptually distinct. The items that were kept ("My job responsibilities keep me from getting sufficient rest" and "Even if I work overtime, I cannot finish all my work") differ from the item that was removed ("My workload has been adjusted as new responsibilities or duties are added"). While the first two items directly address perceived workload, the item that was removed addresses management. Details on the alpha for each construct for each intervention pre and post removal of the item can be found in Table 6, and descriptive variables for the final constructs are listed in Table 7.

Table 6

Internal reliability estimates by construct scale for IWS (n = 62)

Construct	Initial # Items	Original α	Item Deleted	Change in α	Final α	Final # Items
Knowledge	5	.839			.839	5
Compatibility	3	.645	Item 1	.198	.843	2
Relative Advantage	3	.842			.842	3
Risk	3	.692			.692	3
Peer Buy-in	3	.743			.743	3
Time Commitment	3	.561			.561	3
Relationship with Peers	3	.861			.861	3
Workload	3	.469	Item 1	.251	.720	2

Table 7

Descriptive information for IWS constructs (N=62)

Construct	**Mean**	**SD**	**Skewness**	**SE**	**Kurtosis**	**SE**
Knowledge	3.83	.57	-.43	.30	.35	.60
Compatibility	3.62	.64	-.14	.30	-.12	.60
Relative Advantage	3.46	.44	.85	.30	1.32	.60
Risk	2.31	.53	.05	.30	.84	.60
Peer Buy-in	3.38	.59	.48	.30	.83	.60
Time Commitment	3.32	.65	.08	.30	-.43	.60
Relationship with Peers	3.88	.96	-.79	.30	.14	.60
Workload	3.91	1.01	.36	.30	.20	.60

For the utilization variable, I summed referrals to IHBS, Wrap and SPAW, and created a dichotomous variable based on whether people had or had not referred to one of the new interventions in the past month. IWS referral data are included in Tables 8.

Table 8

Referrals in the past month by unit supervisors and line staff

	None	One or more	*n*
IHBS	(18) 62%	(11) 38%	29
Wrap	(33) 67%	(16) 33%	49
SPAW	(36) 74%	(13) 26%	49
IHBS, Wrap or SPAW (IWS)	(32) 50%	(32) 51%	63

Although we asked participants whether they had referred to programs in the past month and how many times they had ever referred to programs ("referrals ever") I used referrals in the past month as the measure for program utilization. The reasons for this are: 1) O`ahu and the Hawai`i Island implemented the Waiver at significantly different time periods which would affect how long caseworkers have the ability to refer, 2) changes in positon or caseload since the start of the Waiver may have affected ability to refer (e.g. if someone was new to a position or changed position), and 3) it is harder to accurately remember the number of referrals one has made over the past year or two than in the past month. Therefore, referrals in the past month seemed to be the best indicator of program utilization.

Data analysis

All data analyses were done utilizing IBM SPSS Statistics Version 24.0. After reverse scored items were re-coded, the data were examined for outliers, particularly in referral patterns as they are the main focus of the study and are the only item that the participants input a number rather than using a Likert scale. Two outliers were identified for Wrap referrals. One individual stated he or she had referred to Wrap 23 times in the past month and four times ever. The monthly number was removed, and the total number was kept as it is close to the average number

of Wrap referrals ever ($M = 2$). Another individual said in the comments, "never done Wrap" and entered "0" for referrals ever, but entered 8 for monthly referrals. This person's monthly referral data were changed to zero to match her comment and her reported referrals ever.

After examining outliers, I looked for patterns in the missing data using a missing values analysis. Depending on the variable, 9-11 cases had missing data in the data set. I looked for trends in caseload, job satisfaction, location, position, referrals, and the six IWS constructs that related to missing cases. The missing values analysis included using univariate statistics (number of extreme high or low cases), correlations, and tabulated cases. No significant patterns emerged related to demographic data, but 9 of the 11 cases had missing data across all of the six intervention specific constructs (knowledge, compatibility, time commitment, relative advantage, peer buy-in and risk) and IWS referrals. This pattern suggests that there is a reason for the missing data that is not completely random.

I decided not to use multiple imputation address these missing data because, according to Allison (2000) "the probability of missing data on a particular variable *Y* can depend on other observed variables, but not on the *Y* itself" (p. 302). That is, if the missing data pattern showed a relationship with demographic variables, multiple imputation would still be an acceptable option, but since the primary pattern is across all IWS constructs and referral data, there is a likely a reason for the missing that relates to those variables directly. It may be because individuals didn't have children on their caseload that met the inclusion criteria for any of the interventions, or because of a third, unknown factor (such as people who did not enter information have less favorable views of the Waiver interventions). Additionally, Heck (2016) argues that multiple imputation should only be used with larger data sets, with a suggested number of at least 150 individuals.

Results

First, bivariate correlations among the variables were inspected (see Table 9 for correlations between variables). Although many constructs were significantly correlated none of them were above $r = .9$, suggesting they are testing unique constructs (Field, 2013).

Table 9

Correlations between constructs for IHBS, Wrap and SPAW (IWS) (N=62)

	Knowledge	Compatibility	Relative Advantage	Risk	Peer Buy-in	Time Commitment	Workload	Peer Relationships
Knowledge	1							
Compatibility	.46**	1						
Relative Advantage	.37**	.53**	1					
Risk	-.58**	-.60**	-.42**	1				
Peer Buy-in	.52**	.58**	.46**	-.58**	1			
Time Commitment	-.04	.04	-.03	-.03	-.16	1		
Workload	.16	.06	.02	-.14	-.13	.12	1	
Peer relationships	.06	-.04	-.04	.05	.15	.03	-.18	1

* Significant at the $p < .05$ level ** Significant at the $p < .01$ level

Hypotheses 1-3 were tested as a single model with adoption serving as the dependent variable. First, I looked only at main effects, and second I added interaction terms. Because the dependent variable in hypotheses 1-3 was dichotomous I used logistic regression. Results of hypotheses 1-3 are summarized in Table 10.

Table 10

Factors affecting utilization of IHBS, Wrap and SPAW (N = 61)

	B	SE	Odds Ratio	Wald	95% Confidence Interval		*p*-value
					Lower	Upper	
Step 1							
Knowledge	.16	.70	1.18	.06	.31	4.36	.81
Compatibility	-.81	.67	.44	1.49	.12	1.63	.22
Relative advantage	-.19	.74	.83	.07	.20	3.50	.80
Risk	-1.61	.85	.20	3.64	.04	1.05	.06
Time Commitment	.20	.42	1.22	.22	.53	2.80	.64
Workload	.10	.26	1.11	.16	.67	1.83	.69
Step 2							
Knowledge	-.10	.74	.91	.02	.21	3.88	.90
Compatibility	-1.00	.72	.38	1.76	.09	1.58	.18
Relative advantage	-.27	.85	.76	.10	.14	4.02	.75
Risk	-2.00*	.97	.14	4.25	.02	.91	.04
Time Commitment	1.52	.56	1.17	.08	.39	3.46	.78
Workload	.36	.34	1.43	1.15	.74	2.77	.28
Knowledge X Compatibility	.98	.89	2.66	1.21	.47	15.26	.27
Relative advantage X Risk	-1.25	1.51	.29	.69	.02	5.50	.41
Workload X Time	-1.38*	.62	.25	4.84	.07	.86	.03

Note: R^2 = .24 (Cox & Snell), .32 (Nagelkerke). Model $\chi^2(1) = 16.9$, $p < .05$
* Significant at the $p < .05$ level ** Significant at the $p < .01$ level

In the first step, none of the main effects were significant. In the final model, hypotheses one and two were not supported, however risk had a significant main effect on referrals in the past month (*OR* = .14, $p < .05$), such that increased perceived risk decreased the likelihood of referral. Hypothesis three was supported, demonstrating a significant interaction between workload and time. I probed the interaction followed the procedures outlined by Dawson (2014), including the recommendation that "low" and "high" values reflect one standard deviation above and below the mean. Figure 2 illustrates that those who perceived the interventions as requiring a high time commitment but who had low workload, and those who reported low workload but thought the interventions required a high time commitment, were more likely to refer. Those who perceived the interventions as requiring a high time commitment and who had a high workload were less likely to refer. Finally, those who perceived the interventions as low time

commitment, who also said they had a low workload were less likely to refer. It should be noted, however, that there was little variation in reported workload, and the majority of the sample described their workload being high (*M* = 3.91, *SD* = .65). Therefore, low workload in this interaction is actually describing individuals who report their workload as "average."

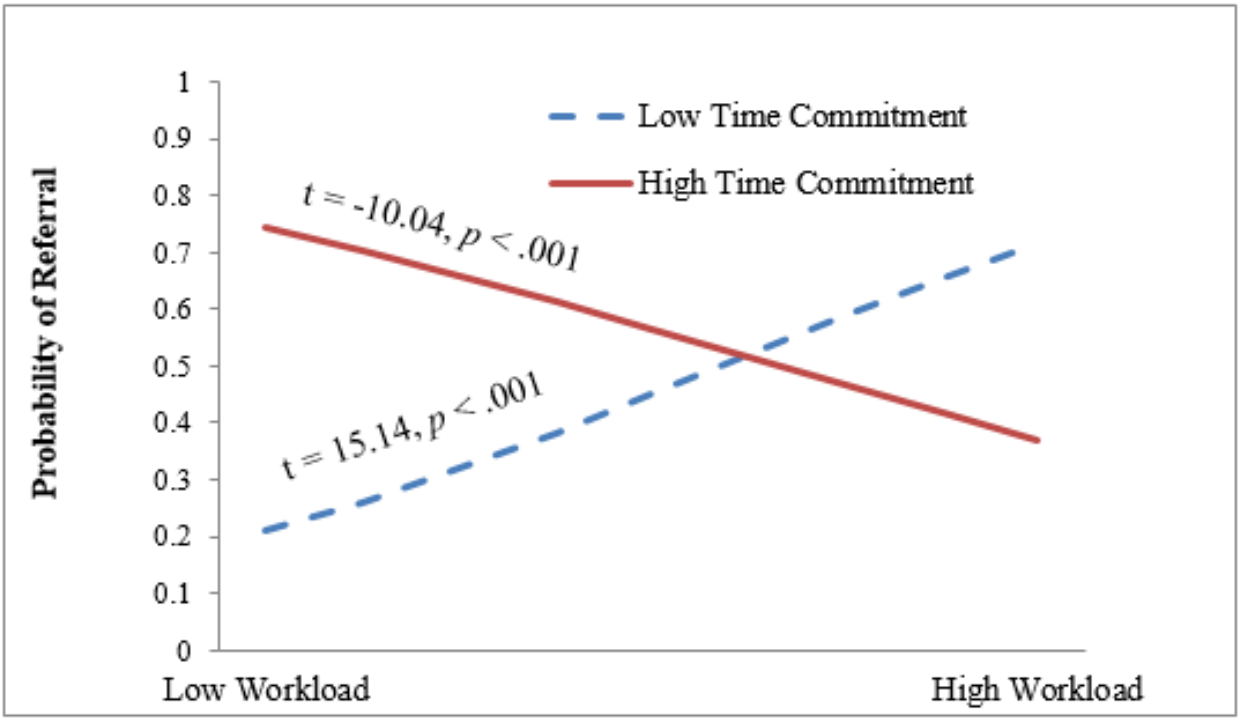

Figure 2. Interaction of time commitment and workload

Hypothesis 4 was tested using linear regression with one interaction term (buy-in by positive relationships with peers) with relative advantage serving as the dependent variable. Although there was not support for the hypothesized interaction, peer buy-in showed a significant main effect ($p < .001$) on relative advantage. Child welfare workers who perceived their peers supported an intervention were significantly more likely to report that the intervention was beneficial. Although there was not a significant interaction effect with relationships, there was also very little variation in reported strength of relationships with peers (*M* = 3.88, *SD* =.96). Results from the linear regression are summarized in Table 11.

Table 11

Effect of perceived peer buy-in and peer relationships on relative advantage (N =62)

	B	SE B	β	ΔR^2	*p*-value
Step 1				.22	
Peer buy-in	.35**	.09	.47		.000
Peer relationships	-.05	.06	-.11		.35
Step 2				.02	
Peer buy-in	.41**	.10	.55		.000
Peer relationships	-.06	.06	-.12		.30
Peer buy in X relationships	-.14	.11	-.16		.22

* Significant at the p < .05 level ** Significant at the p < .01 level

Discussion

The aim of this thesis research has been to examine which factors are affecting adoption of four new programs in the child welfare system in Hawai`i. Adoption is an important outcome of the implementation process, as it captures the uptake of new programs and innovations. Within child welfare, very little research had been done to examine factors affecting adoption of innovations, despite ample literature indicating the need for introduction of more evidence-based practices. This research contributes to our understanding of innovation in child welfare, highlighting the importance of perceived risk of new programs, time commitment, workload, and the effect of peer buy-in on relative advantage.

Perceived Risk of the Innovation

Despite a small sample size, perceived risk emerged as a statistically significant factor as to whether caseworkers referred to one of the three new interventions in the past month ($p < .05$). Risk is a powerful determinant of caseworker decisions, and it should be, as caseworker decisions not only affect the long-term outcomes of children, but can involve life or death situations (Gambrill & Shlonsky, 2001). The emergence of risk as an important factor in implementation is consistent with past research that has found mitigating risk to children is

typically the highest priority for child welfare caseworkers, who tend to suffer from "compassion fatigue" and whose own health is often affected by the stressful nature of risk mitigation and decision-making (Dill, 2007). Consistently, when we asked caseworkers what their greatest fear was, they described being constantly afraid that they would make the wrong choice for the children they work with.

Fear of increased risk to children also emerged in our focus group findings when discussing perceptions of the new programs and barriers to utilization. For example, one caseworker described her risk-related concerns when discussing Wrap. She relayed the story of a child with chronic health conditions and asthma whose mother had committed suicide, and whose father had been unable to care for him. The Wrap team was focused on reuniting the child with his father, but the caseworker felt the Wrap staff was enabling the father's bad behavior, and that the child could be abused or neglected again once the Wrap program ended. The caseworker said, "I understand this is strengths-based, but we are overcompensating for the father… I'm fearful if we reunify [the father] is going to fail, and we have an extremely vulnerable child."

Similarly, some caseworkers described concerns referring to IHBS, which is intended to serve children in high risk situations. One of the requirements of referring to IHBS is that the child would be removed from the home if it weren't for the service (described as "imminent risk of placement"), which some caseworkers described as being too high a bar. In the open-ended portion of the survey, several caseworkers mentioned they thought eligibility criteria for IHBS were too strict, including regarding risk. One stated, "When I have referred to IHBS I have had families assessed as too low [risk] for eligibility and then are kicked out when they really need the service." Another caseworker, when describing the imminent risk of placement requirement

stated, “If I’m going to take a kid, they aren’t going back in 5 or 30 days… If I take them it’s because it’s absolutely necessary.”

Other complicated aspects of perceived risk as an implementation barrier are that, as described in the literature review, many child welfare programs have a limited evidence base (Aarons et al., 2011), and research on risk assessment indicates that it is very difficult to assess risk accurately (Gillingham, 2006). A study by Terling (1999) on family reunification programs in two child welfare systems found that “system reentry due to additional maltreatment is considerable,” 37% of children reunited with their families re-entered the system within 3 ½ years due to maltreatment, and that the reentry rate of children was unrelated to the social workers assessment of risk (p. 1359). Furthermore, a 6-year prospective study that compared youth who remained in foster care and youth who were reunited with their families showed that reunited youth tended to show more self-destructive behavior, substance use, educational delinquency, behavior problems, and arrests (Taussig, Clyman, & Landsverk, 2001). Other research has found that family reunification programs, when paired with dependency courts, have low levels of re-entry due to maltreatment (Chuang, Moore, Barrett, & Young, 2012). This demonstrates that the evidence is complex, contradictory, and incomplete for many programs in child welfare. Adding to the evidence base is one of the justifications for demonstration projects and their related evaluations, but as these programs are implemented for demonstration, it is expected that risk will be one of the factors in the forefront of child welfare caseworkers’ minds during their decision-making processes.

The Interaction of Workload and Time Commitment

In addition to a main effect for risk, workload and time commitment showed a significant interaction effect with respect to referrals ($p < .05$). Unsurprisingly, caseworkers who reported

having a higher workload and perceived the services as requiring a high time commitment were less likely to refer than those who either described having a lower workload but still saw the services as requiring a high time commitment, or those who had a higher workload, but saw the services as requiring a lower time commitment. What is more difficult to explain are the individuals who described having a lower workload and saw the services as low time commitment, who were still less likely to refer. This could be due to a third variable that isn't in the model, such as caseload or caseload characteristics. Caseworkers with a lower caseload may have a lower workload and even if they perceive the interventions as requiring a low time commitment, they may have fewer children or youth to refer.

Once again, the finding that workload and time commitment are barriers to utilization is concurrent with the focus group findings and the open-ended response section of the survey. In response to each of the interventions, the caseworkers mentioned time constraints. For IHBS, one person listed "the constraints/demands of meeting with the family, weekly, as an assessment worker on an island as Hawai`i as ours" as the Hawai`igest barrier to referrals. For Wrap a caseworker described, "The additional workload and time commitment is a serious barrier to exploring Wrap. It discourages referrals. Referrals are done when there is additional time, when workload is lightest, or when legal timelines are expiring." Comments for SPAW also reflected work and time commitment concerns. "Too much time involved, 4 hours scheduled to discuss 3 kids." "The required paperwork is necessary and useful, but I have so many cases, the work often takes a lower priority." This feedback and the survey findings that time commitment and workload significantly affect referral rates, mirror findings of the focus groups, which highlighted the need for a streamlining process and workload adjustments. These findings mirror

past innovation research which shows that adjusting workload as new responsibilities are added improves uptake of new programs (Greenhalgh et al., 2004).

Peer Buy-in's Effect on Relative Advantage

The final significant finding of this research was a significant ($p < .001$) direct effect between peer buy-in and perceived relative advantage of the interventions. As a reminder, relative advantage describes the perception that an innovation is better than the program or process it is meant to replace. An example relative advantage question is: "IHBS has improved our ability to help children and families compared to what we used to do." Interestingly, relative advantage was not a predictor of referrals in the past month, despite the fact that past research on innovation describes relative advantage as an essential precursor to adopting new programs (Greenhalgh et al., 2005). Perhaps relative advantage is an essential first step to using a program, but it is not enough to mitigate other barriers (for example additional time commitment or perceived risk). Or perhaps the lack of a main effect on referrals was due to sample size or measurement error, which will be described more fully in the limitation section. Nonetheless, relative advantage is an important implementation outcome on its own as it captures the perspective of the potential users of the interventions. This finding, that peer-buy in is predictive of relative advantage, is in keeping with ample past social network analysis research that demonstrates one's social system is a powerful determinant of individual appraisal of new interventions (Denis et al., 2002; Fennell & Warenecke, 2012; Valente, 1996).

Limitations

There are several limitations to this study. The first is that many implementation factors that may affect utilization were left out because of length restrictions. The second is small sample size. With 63 participants, there may have been issues detecting effects due to low

power. Low sample size was one of the primary reasons I decided not to use multiple imputation to address missing data, and it also limited my scope. Because there were few caseworkers involved with each intervention, I had to focus on issues that I believed were relevant across the interventions and demonstration sites. Although the purpose of this work is to broadly understand issues affecting innovation in child welfare, there may have been issues that were masked by combining responses across unique interventions. One of these unique factors is that risk, which emerged as an important causal factor, may be a higher or lower issue depending on the intervention. IHBS is an intervention that inherently involves children in high-risk situations because they are at immanent risk of placement. Wrap and SPAW, on the other hand, work with children who are in foster care. Although risk was also an important factor in those interventions, the nature of risk differs in Wrap and SPAW in that it is less acute. The fourth limitation is an issue of measurement. I have not had an opportunity to pilot these survey questions. Fortunately, there were not significant issues of multicollinearity, but there was low reliability for some scales, based on Chronbach's alpha, and it was not possible for me to do more rigorous tests of validity and reliability due to low sample size. Many of the scales were skewed and had low variation, which may have limited my ability to detect main effects and interaction effects. Furthermore, the main outcome variable, referrals in the past month is subject to errors of self-report.

Conclusion

The strength of this research is that the findings triangulate with focus group findings and past research on innovation and implementation while contributing new information. Findings suggests that risk, time commitment, and workload are important factors to consider when designing implementation of new programs, and that not addressing those issues may affect

uptake and utilization. Furthermore, findings indicate peer buy-in is an important determinant of perceived relative advantage. Recommendations in light of these findings are to assess and address caseworkers' perceptions of the risk of new programs in child welfare, to reduce workload and time commitment of interventions when possible to increase utilization, and to target implementation activities to caseworkers' social systems and peer networks. One innovation in child welfare services that might make many of these aspirations a reality, is improved data systems. Improved data systems would not only reduce the amount of time spent doing paperwork and dealing with issues related to antiquated systems (time commitment and workload), but it would also allow caseworkers to see the outcomes of the children they work with, more easily find and share case information, and track utilization of programs across Waiver sites. In fact, past research has shown that improved data systems improved implementation of innovations in child welfare (Mildon & Shlonsky, 2011), and observation of the Waiver evaluation sites in Hawai`i demonstrate that the data systems are severely antiquated and difficult to use.

There are many opportunities for future research on innovation in child welfare. Research in this area would be bolstered by studies that link perceptions of child welfare innovations and implementation factors with actual (rather than self-reported) referral rates, increasing sample size, and including a broader diversity of implementation factors. Future research could also incorporate multiple sites and utilize a multi-level design to better understand the role of community and organizational characteristics. Finally, a longitudinal research design, perhaps one that utilized early data to target implementation efforts, would be an excellent addition to the literature on adoption of innovation and evidence-based practice in child welfare services.

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Appendix A

University of Hawai'i
Consent to Participate in a Research Project
Project title: Child Welfare Title IV-E Waiver Evaluation

Aloha! You are being asked to participate in a confidential online survey as part of the Child Welfare Title IV-E Waiver Evaluation. As you know, the Waiver has been an important initiative in the Child Welfare Services Branch, and we would like to gather information about the program from those like you, who have been on the front lines of implementing the changes. No one, including the evaluation team, will be able to associate your responses with your identity. You must be at least 18 years of age to participate in this study. Your completion of the survey serves as your voluntary agreement to participate in this research project.

Project Description – Activities and Time Commitment: If you decide to take part in this project you will be asked to complete an on-line survey. The survey questions are mainly multiple choice or on a rating scale. However, there will be a few questions where you may add an open-ended response. The survey will ask questions about your work environment and the implementation of the Waiver program. Questions will include things like, "I have received enough information about CRT to understand its overall purpose" and "I have confidence that referring to SPAW will not compromise the safety of the child." There will also be fictional scenario cases which use fake names. The survey is accessed on a website to which I will provide you with a link. Completing the survey will take approximately 20 minutes. I expect around 100 people will take part in this survey.

Benefits and Risks: There will be no direct benefit to you for taking part in this project. However, the findings from this project may help create a better understanding of the implementation process of the Title IV-E Waiver Demonstration. There is no risk to you for participating in this project.

Confidentiality and Privacy: I will not ask you for any personal information, such as your name or address. Please do not include any personal information in your survey responses.

Voluntary Participation: You can freely choose to take part or to not take part in this survey. There will be no penalty or loss of benefits for either decision. If you do agree to participate, you can stop at any time.

Questions: If you have any questions about this study, please email me at [chandler@hawaii.edu or 808-956-0978]. You may also contact the UH Human Studies Program at 808-956-5007 or uhirb@hawaii.edu to discuss problems, concerns and questions, obtain information, or offer input with an informed individual who is unaffiliated with the specific research protocol. Please visit https://www,hawaii.edu/researchcompliance/information-research-participants if you would like more information on your rights as a research participant.

Clicking on the "Agree" button below indicates that:

- You have read the above information
- You understand what is being asked of you, and how the information you provide will be used.
- You voluntarily agree to participate
- You are at least 18 years of age

If you do not wish to participate in the research study, please decline participation by clicking on the "Disagree" button. You can change your mind later if you want to. You may print a copy of this consent form from this webpage, or by contacting project staff (Joy Agner; joyagner@hawaii.edu).

Research shows that organizational characteristics have an influence on implementing new programs. Therefore, in this section we would like to ask you some general questions about your experiences working in the child welfare system.

(This section uses a standardized scale)

How much of each kind of opportunity do you have in your present job?	None		Some		A Lot
1. Challenging work	1	2	3	4	5
2. The chance to gain new knowledge and skills on the job	1	2	3	4	5
3. Tasks that use all of your own skills and knowledge	1	2	3	4	5
How much access to information do you have in your present job?	**None**		**Some**		**A Lot**
1. The current state of the child welfare branch	1	2	3	4	5
2. The values of top management in the Waiver	1	2	3	4	5
3. The goals of top management in DHS	1	2	3	4	5
How much access to support do you have in your present job?	**None**		**Some**		**A Lot**
1. Specific information about things you do well	1	2	3	4	5
2. Specific comments about things you could improve	1	2	3	4	5
3. Helpful hints or problem solving advice	1	2	3	4	5
How much access to resources do you have in your present job?	**None**		**Some**		**A Lot**
1. Time available to do necessary paperwork	1	2	3	4	5
2. Time available to accomplish job requirements	1	2	3	4	5
3. Getting temporary assistance when needed	1	2	3	4	5
In my work setting:	**None**		**Some**		**A Lot**
1. The rewards for innovation on the job are:	1	2	3	4	5
2. The amount of flexibility in my job is:	1	2	3	4	5
3. The amount of visibility of my work-related activities within the CWS branch is:	1	2	3	4	5
How much opportunity do you have for these activities in your present job:	**None**		**Some**		**A Lot**
1. Collaborating on cases with other child welfare professionals	1	2	3	4	5
2. Being sought out by peers for help with problems	1	2	3	4	5
3. Being sought out by supervisors for help with problems	1	2	3	4	5
4. Seeking out ideas from community partners	1	2	3	4	5

Now we would like to get a better sense of factors that affect your individual practice:

Workload	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. My workload has been adjusted as new responsibilities or duties are added	1	2	3	4	5
2. My job responsibilities keep me from getting sufficient rest	1	2	3	4	5
3. Even if I work overtime, I cannot finish all of my work	1	2	3	4	5
Resources	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1. Our unit has sufficient staff to meet our needs	1	2	3	4	5
2. The office equipment (computers, faxes, tablets, phones etc.) in our unit are adequate and up-to-date	1	2	3	4	5
3. Lack of connectivity to internet is a barrier to efficient practice at my work	1	2	3	4	5
4. If I need additional resources to do my job I feel confident I can get them	1	2	3	4	5
Supervision	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1. My supervisor listens to my perspective	1	2	3	4	5
2. I do not have a good relationship with my supervisor	1	2	3	4	5
3. My supervisor is knowledgeable about working with children and families	1	2	3	4	5
4. My supervisor reinforces trainings I receive	1	2	3	4	5
Teamwork	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1. I feel free to share opinions with people in my unit	1	2	3	4	5
2. I am close to people in my unit	1	2	3	4	5
3. I do not trust advice from people in my unit	1	2	3	4	5

Information Systems	Strongly	Disagree	Neutral	Agree	Strongly

	disagree				agree
1. I see why entering data into SHAKA is useful	1	2	3	4	5
2. Entering data into SHAKA takes too much time	1	2	3	4	5
3. I feel I still need training on how to enter data into SHAKA	1	2	3	4	5
4. I do not see why entering data into CPSS is useful	1	2	3	4	5
5. Entering data into CPSS doesn't take a long time	1	2	3	4	5
6. I have received enough training on CPSS	1	2	3	4	5

Assessments

*(*these are if / then questions, so they will only answer the second question if they click "yes" indicating they use that assessment)*

1. I have been required to complete the Intake Tool yes no

2. If I don't complete the Intake Tool it is usually because (please check all that apply):
   a) N/A - I always complete the Intake Tool
   b) I don't have time
   c) I don't think it's useful
   d) I never think standardized assessments are useful
   e) I don't have all the information it is asking for
   f) I did it on paper and didn't enter it into the computer
   g) I started it, but I didn't finish it
   h) Internet isn't available in the field
   i) Other

3. I have been required to complete the In-Home Safety Plan for CRT yes no

4. If I don't complete the In-Home Safety Plan it is usually because (please check all that apply):

   a) N/A - I always complete the In-Home Safety Plan
   b) I don't have time
   c) I don't think it's useful
   d) I never think standardized assessments are useful
   e) I don't have all the information it is asking for
   f) I did it on paper and didn't enter it into the computer
   g) I started it, but I didn't finish it
   h) Internet isn't available in the field
   i) Other

5. I have been required to complete the CANS for Wrap yes no

6. If I don't complete the CANS for Wrap it is usually because (please check all that apply):

   a) N/A - I always complete the required assessments
   b) I don't have time
   c) I don't think it's useful
   d) I never think standardized assessments are useful
   e) I don't have all the information it is asking for
   f) I did it on paper and didn't enter it into the computer
   g) I started it, but I didn't finish it
   h) Internet isn't available in the field
   i) Other

7. I have been required to complete the CANS for SPAW yes no

8. If I don't complete the CANS for SPAW it is usually because (please check all that apply):

   a) N/A - I always complete the CANS for SPAW
   b) I don't have time
   c) I don't think it's useful
   d) I never think standardized assessments are useful
   e) I don't have all the information it is asking for
   f) I did it on paper and didn't enter it into the computer
   g) I started it, but I didn't finish it
   h) Internet isn't available in the field
   i) Other

The next sections ask specific questions about the new Waiver interventions. Please describe your role so we only ask you questions about the interventions with which you are involved.

1) I work in statewide intake and can make referrals to CRT	Yes	No
2) I am an intake supervisor	Yes	No
3) I work in CRT and can make referrals to IHBS	Yes	No
4) I am a CRT supervisor	Yes	No
5) I have clients that have been in care 9 months or longer	Yes	No
6) I supervise case managers who have the ability to refer to Wrap or SPAW	Yes	No

This section will help us know more about your perceptions of CRT.
The more careful and accurate you can be in your answers the more they will aid in our understanding.

*(*this section will be randomized in order so that similar questions are not side by side)*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
1. I have received enough information about CRT to understand its overall purpose	1	2	3	4	5	N/A
2. I have confidence that referring to CRT will not compromise the safety of the child	1	2	3	4	5	N/A
3. My co-workers do not think CRT helps children and families	1	2	3	4	5	N/A
4. CRT requires a Hawai`i time commitment	1	2	3	4	5	N/A
5. The eligibility criteria for CRT are a barrier for matching the service to the families that need it	1	2	3	4	5	N/A
6. I believe CRT can help children and families	1	2	3	4	5	N/A
7. Using CRT makes little difference in terms of time commitment	1	2	3	4	5	N/A
8. I worry that CRT increases risk to children	1	2	3	4	5	N/A
9. CRT trainings made the need for the intervention clear to me	1	2	3	4	5	N/A
10. It is clear how CRT is meant to help children and families	1	2	3	4	5	N/A
11. CRT does not meet the needs of children locally	1	2	3	4	5	N/A
12. CRT improves our ability to help families compared to what we used to do	1	2	3	4	5	N/A
13. People in my unit have had really bad experiences with CRT	1	2	3	4	5	N/A
14. I am not sure which cases should go to CRT	1	2	3	4	5	N/A
15. CRT is not better than our old way of doing things	1	2	3	4	5	N/A
16. I think all high risk cases should be responded to in two hours	1	2	3	4	5	N/A
17. I find it very hard to meet the two hour time frame requirement of CRT	1	2	3	4	5	N/A

18. CRT assessments do not match local family contexts	1	2	3	4	5	N/A
19. CRT decreases risk to children overall	1	2	3	4	5	N/A
20. The main goal of CRT is not clear to me	1	2	3	4	5	N/A
21. CRT referrals don't happen because of time constraints	1	2	3	4	5	N/A
22. My co-workers have had successful experiences with CRT	1	2	3	4	5	N/A

23. I have referred to CRT approximately ___ times
24. If there are any barriers to CRT utilization you think we should consider that were not already addressed, please describe them here:

In the following scenarios please select what you think is the best course of action:				
Kaleo is a 9 year-old boy. His teacher saw a bruise on his face and when asked, he said "I was naughty and my dad slapped me." The school called CWS. Intake believed that the behavior of primary caregivers put the child at risk for violence. The parent seems to be impulsive, exhibiting physical aggression, temper outbursts which could likely cause danger to the child.	Send a caseworker out when possible	Not Sure	Refer to CRT	Other (please describe)
Queen's Hospital emergency room called CWS. The mother and her son, Jose who is 16 years old child came into the ER because he was having a breathing problem. The mother thought it might be asthma. The child had been diagnosed previously with a schizoaffective disorder, and the mother says she does not have the skill or ability to care for child. The child is vulnerable due to lack of self-protection skills or the presence of special needs that his mother is unable to meet, and these are presenting the threat of present or impending danger.	Send a caseworker out when possible	Not Sure	Refer to CRT	Other (please describe)

This section will help us know more about your perceptions of IHBS.
The more careful and accurate you can be in your answers the more they will aid in our understanding.

*(*this section will be randomized in order so that similar questions are not side by side)*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
1. I have received enough information about IHBS to understand its overall purpose	1	2	3	4	5	N/A
2. I have confidence that referring to IHBS will not compromise the safety of the child	1	2	3	4	5	N/A
3. My co-workers do not think IHBS helps children and families	1	2	3	4	5	N/A
4. IHBS requires a Hawai`i time commitment	1	2	3	4	5	N/A
5. The eligibility criteria for IHBS are a barrier for matching the service to the families that need it	1	2	3	4	5	N/A
6. I believe IHBS can help children and families	1	2	3	4	5	N/A
7. IHBS improves our ability to help families compared to what we used to do	1	2	3	4	5	N/A
8. Using IHBS makes little difference in terms of time commitment	1	2	3	4	5	N/A
9. I would like to use IHBS type services for cases that are currently considered too low risk	1	2	3	4	5	N/A
10. I worry that IHBS increases risk to children	1	2	3	4	5	N/A
11. IHBS trainings made the need for the intervention clear to me	1	2	3	4	5	N/A
12. It is clear how IHBS is meant to help children and families	1	2	3	4	5	N/A
13. The IHBS intervention does not meet the needs of children locally	1	2	3	4	5	N/A
14. People in my unit have had really bad experiences with IHBS	1	2	3	4	5	N/A
15. I am not sure which cases should go to IHBS	1	2	3	4	5	N/A
16. The IHBS intervention is not better than our old way of doing things	1	2	3	4	5	N/A
17. IHBS assessments do not match local family contexts	1	2	3	4	5	N/A

18. IHBS decreases risk to children overall	1	2	3	4	5	N/A
19. The main goal of IHBS is not clear to me	1	2	3	4	5	N/A
20. IHBS referrals don't happen because of time constraints	1	2	3	4	5	N/A
21. My co-workers have had successful experiences with IHBS	1	2	3	4	5	N/A

22. I have referred to IHBS approximately ___ times
23. If there are any barriers to IHBS utilization you think we should consider that were not already addressed, please describe them here:

In the following scenarios please select what you think is the best course of action:					
CRT workers went to the house of Shelly and her three children, Antonia (age 10), Raquel (5), and Robert (3) at 3:00 am. CWS had been called by the police after they had received a call from Shelly's neighbor saying he had heard screaming next door. When CRT arrived they found that Antonia had been hit with a wire brush resulting in approximately 20 to 30 small holes in her scalp. The other two children were crying hysterically and refused to talk with the CRT worker. Maria admitted hitting the children, stating she "just lost control." A single parent, she supported the family by part-time employment and public assistance. Raising 3 children alone was overwhelming and financial problems were never-ending. The house was very dirty, with layers of clothes and trash.	Refer to VCM or FSS	Continue with CRT case management	Refer to IHBS	Refer to CWS for placement in foster custody	Other (please describe)
CRT was sent out after a school counselor called intake saying that a 6 year-old girl, Tiffany, had come to school with bruises many times. She always had different explanations about the bruises, some of which were hard to believe. When CRT investigated the case, there were suggestions of domestic violence. The mother was very quiet and seemed fearful during interviews when the husband was present. She also made a comment to the CRT worker that he took her phone away whenever she left the house. When asked if she has been hit Tiffany becomes tearful but does not respond. Both parents live in the house, but you are worried about the safety of the mother and child if they stay in the home with the father.	Refer to VCM or FSS	Continue with CRT case management	Refer to IHBS	Refer to CWS for placement in foster custody	Other (please describe)

This section will help us know more about your perceptions of Wrap.
The more careful and accurate you can be in your answers the more they will aid in our understanding.

*(*this section will be randomized in order so that similar questions are not side by side)*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
1. I have received enough information about Wrap to understand its overall purpose	1	2	3	4	5	N/A
2. I have confidence that referring to Wrap will not compromise the safety of the child	1	2	3	4	5	N/A
3. My co-workers do not think Wrap helps children and families	1	2	3	4	5	N/A
4. Wrap requires a Hawai`i time commitment	1	2	3	4	5	N/A
5. The eligibility criteria for Wrap are a barrier for matching the service to the families that need it	1	2	3	4	5	N/A
6. I believe Wrap can help children and families	1	2	3	4	5	N/A
7. Wrap improves our ability to help families compared to what we used to do	1	2	3	4	5	N/A
8. Using Wrap makes little difference in terms of time commitment	1	2	3	4	5	N/A
9. I worry that Wrap increases risk to children	1	2	3	4	5	N/A
10. Wrap trainings made the need for the intervention clear to me	1	2	3	4	5	N/A
11. It is clear how Wrap is meant to help children and families	1	2	3	4	5	N/A
12. Wrap does not meet the needs of children locally	1	2	3	4	5	N/A
13. People in my unit have had really bad experiences with Wrap	1	2	3	4	5	N/A
14. I am not sure which cases should go to Wrap	1	2	3	4	5	N/A
15. Wrap is not better than our old way of doing things	1	2	3	4	5	N/A
16. Wrap assessments do not match local family contexts	1	2	3	4	5	N/A
17. I would like to use Wrap for cases that have been in care less than 9 months	1	2	3	4	5	N/A

18. Wrap decreases risk to children overall	1	2	3	4	5	N/A
19. The main goal of Wrap is not clear to me	1	2	3	4	5	N/A
20. Wrap referrals don't happen because of time constraints	1	2	3	4	5	N/A
21. My co-workers have had successful experiences with Wrap	1	2	3	4	5	N/A

22. I have referred to Wrap approximately ___ times
23. If there are any barriers to Wrap utilization you think we should consider that were not already addressed, please describe them here:

In the following scenarios please select what you think is the best course of action:				
Alexis is a 3 year-old girl who was taken away from her parents at birth. Her birth mother was addicted to drugs, and Alexis was exposed to methamphetamines before she was born. This was the mother's third child taken away by CWS. Alexis's birth mom has had her parental rights terminated, however she still calls CPS frequently and wants to find out how she can get her children back. Alexis has been in a kinship resource caregivers home with her two siblings for a year and a half. The caregivers are her aunt and uncle. They are open to the idea of adopting Alexis, but the uncle is worried that his wife (the auntie) will not be able to protect the children from their mother as soon as CPS is not involved.	Continue with case management as usual	Refer to Wrap	Refer to SPAW	Other (please describe)
Marco is a 12 year-old boy from the Marshall Islands who has been in foster custody for 10 months. Marco has a serious hearing disorder, and has had a hard time adjusting to life in Hawaii. He hates school because he is bullied. Marco often runs away from his foster home and goes to his grandmother's house. His grandmother cannot fully care for him and she has a hard time getting him to go to school. Marco's parents have four other children and feel that Marco is just a "rascal". They say they are willing to participate in services, but frequently miss appointments and have not taken the required drug tests. There are often discrepancies in what they say when they describe why they have not been compliant.	Continue with case management as usual	Refer to Wrap	Refer to SPAW	Other (please describe)

This section will help us know more about your perceptions of SPAW.
The more careful and accurate you can be in your answers the more they will aid in our understanding.

*(*this section will be randomized in order so that similar questions are not side by side)*	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	N/A
1. I have received enough information about SPAW to understand its overall purpose	1	2	3	4	5	N/A
2. I have confidence that referring to SPAW will not compromise the safety of the child	1	2	3	4	5	N/A
3. My co-workers do not think SPAW helps children and families	1	2	3	4	5	N/A
4. SPAW requires a Hawai`i time commitment	1	2	3	4	5	N/A
5. The eligibility criteria for SPAW are a barrier for matching the service to the families that need it	1	2	3	4	5	N/A
6. I believe SPAW can help children and families	1	2	3	4	5	N/A
7. I would like to use SPAW for cases that have been in care less than 9 months	1	2	3	4	5	N/A
8. Using SPAW makes little difference in terms of time commitment	1	2	3	4	5	N/A
9. I worry that SPAW increases risk to children	1	2	3	4	5	N/A
10. SPAW trainings made the need for the intervention clear to me	1	2	3	4	5	N/A
11. SPAW improves our ability to help families compared to what we used to do	1	2	3	4	5	N/A
12. It is clear how SPAW is meant to help children and families	1	2	3	4	5	N/A
13. The SPAW intervention does not meet the needs of children locally	1	2	3	4	5	N/A
14. People in my unit have had really bad experiences with SPAW	1	2	3	4	5	N/A
15. I am not sure which cases should go to SPAW	1	2	3	4	5	N/A
16. The SPAW intervention is not better than our old way of doing things	1	2	3	4	5	N/A
17. I don’t refer to SPAW because I feel my work will be scrutinized	1	2	3	4	5	N/A

18. SPAW assessments do not match local family contexts	1	2	3	4	5	N/A
19. SPAW decreases risk to children overall	1	2	3	4	5	N/A
20. The main goal of SPAW is not clear to me	1	2	3	4	5	N/A
21. SPAW referrals don't happen because of time constraints	1	2	3	4	5	N/A
22. My co-workers have had successful experiences with SPAW	1	2	3	4	5	N/A

23. I have referred to SPAW approximately ___ times

24. If there are any barriers to SPAW utilization you think we should consider that were not already addressed, please describe them here:

You've made it to the end! In this last section we would like to collect some demographic information to help us understand your practice better.

*(*for race and ethnicity demographic questions a decision was made by the group to follow the existing protocol in child welfare services as that is what the caseworkers are familiar with)*

Where are you located?

a) West Hawaii
b) East Hawaii
c) O`ahu

What title best describes your position?

a) Line Staff
b) Unit Supervisor
c) Section Administrator

Please describe your current caseload:

a) Number of families
b) Number of children
c) I don't carry a caseload

What is your age?

What is your gender?

a) Female
b) Male
c) Non-binary / third gender
d) Prefer to self-describe _____
e) Prefer not to say

What is your race? (Please check all that apply)

a) Asian
b) Hawaiian Islander / Pacific Islander
c) White
d) Black / African American
e) American Indian / Alaska Native
f) Latina/o
g) Other - please describe
h) Prefer not to say

What is your ethnicity? (Please choose one)

a) American Indian
b) Alaska Native
c) Black
d) Cambodian
e) Chuukese
f) Filipino
g) Guamanian/Chamorro
h) Hawaiian or Part Hawiian

i) Hispanic/Spanish origin or Latino
j) Japanese
k) Korean
l) Kosraean - Federated States of Micronesia
m) Laotian
n) Mixed (Not part Hawaiian / Not part Hispanic)
o) Marshalese - Republic of the Marshall Islands
p) Other Pacific Islander
q) Palauan - Republic of Palau
r) Pohnpeian - Federated States of Micronesia
s) Samoan - American Samoa & Independent State of Samoa
t) Tongan
u) Vietnamese
v) White (Caucasian)
w) Yapese - Federated States of Micronesia
x) Other
y) Prefer not to say

What is the highest educational level you have attained?

a) High School
b) Bachelor's Degree
c) MSW
d) Master's degree in a related field
e) Higher degree than master's

How many years have you worked in social services for children?

a) At CWS
b) At DHS
c) At another agency that serves children

Taking everything into consideration, how do you feel about your job as a whole?

Extremely satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Extremely dissatisfied

Thank you for your time and participation! Please enjoy some snacks.

We expect to share results by next fall.

Appendix B

Table 1B

Factors affecting utilization of SPAW (n = 47)

	B	SE	Odds Ratio	Wald	*p*-value
Knowledge	-6.156	4.097	.002	2.258	.133
Compatibility	-5.128	3.987	.006	1.654	.198
Relative advantage	-7.464	4.976	.001	2.250	.134
Risk	-12.956	7.806	.000	2.755	.097
Time Commitment	.717	.810	2.049	.783	.376
Workload	.083	.880	1.087	.009	.925
Knowledge X Compatibility	1.356	1.039	3.880	1.704	.192
Relative advantage X Risk	3.535	2.168	34.297	2.658	.103
Workload X Time	.061	.126	1.063	.232	.630

Note: R^2 = .19 (Cox & Snell), .27 (Nagelkerke). Model $\chi^2(1) = 5.3$, p = .15

Table 2B

Factors affecting utilization of Wrap (n = 47)

	B	SE	Odds Ratio	Wald	*p*-value
Knowledge	-1.35	3.70	.25	.13	.71
Compatibility	-.78	3.97	.45	.03	.84
Relative advantage	1.01	4.65	2.73	.04	.82
Risk	2.01	6.38	7.48	.09	.75
Time Commitment	-.10	.79	.90	.01	.90
Workload	1.38	.87	3.98	2.50	.11
Knowledge X Compatibility	.01	.93	1.00	.00	.99
Relative advantage X Risk	-1.07	1.85	.34	.33	.56
Workload X Time	.07	.13	1.07	.29	.58

Note: R^2 = .20 (Cox & Snell), .28 (Nagelkerke). Model $\chi^2(1) = 10.29$, p = .33