Structural equation modeling the use of a risk assessment instrument in child protective services

Dale Fitch *

University of Michigan, School of Social Work, 1080 South University, Rm 2794, Ann Arbor, MI 48109-1106, United States

Received 20 November 2003; received in revised form 15 May 2006; accepted 27 May 2006
Available online 10 July 2006

Abstract

Risk assessment instruments have been developed to help human service workers identify risk factors associated with abusive families. Many such instruments have been incorporated into management information systems in the form of Decision Support Systems (DSS). This paper reports findings from a case study that evaluated a risk assessment instrument as a decision support tool. Respondents considered “usefulness” of the information a more important factor than how easy the system was to use, the configuration of reports or whether the system was up or not. Focus groups were used to explore how to increase the usefulness of the information.

Keywords: Human service organization; Decision making satisfaction; Risk assessment; Structural equation modeling

1. Introduction

Risk assessment instruments began to be developed in the early 1980s to help human service workers identify high risk factors often associated with abusive families or incidents of confirmed abuse [15]. These instruments were developed because the outcomes of the decision-making process in Child Protective Services (CPS) have periodically come under scrutiny due to the belief that some child abuse case workers make “poor” decisions when working with families [26]. These poor decisions may result in a child experiencing additional abuse and possible death. In recent years, many risk assessment instruments have become digitized and incorporated into CPS management information systems as Decision Support Systems (DSS) to be used by workers as they conduct investigations [25,6].

This paper reports findings from a case study, comprised of quantitative and qualitative data, of an evaluation of a risk assessment instrument used as a DSS at a CPS investigative agency. Items that comprised the risk assessment instrument can be found in Appendix A. Workers were required to fill out this online instrument within 72 h of receiving a referral, and results were to be used to aid them in assessing the overall risk for abuse the child may be experiencing. If a majority of the boxes were checked yes, then the child was felt to be at high risk of abuse. The agency’s experience, however, was that not all workers completed the instrument within the 72-h timeframe. Furthermore, it was also not known how useful the instrument was in assisting the workers in assessing risk. Reasons posited for the workers not completing the instrument included, but were not
limited to, technology problems, user interface issues, and difficulties with the instrument itself. The purpose of the study was to inform and make recommendations to the state CPS department on the effectiveness of its risk assessment-based DSS.

2. Review of literature on information systems and decision support systems

While hundreds of studies have examined the implementation and use of information technologies in the private and corporate sectors, fewer studies have been conducted in the human services sector. In this sector, Monnickendam [24] reviewed 35 studies from a variety of settings to identify variables associated with IT system use. Key constructs included: participation and involvement in system design; perceived usefulness; training, skills and self-efficacy; organizational context and support; and attitudes, demographics, and personal traits (e.g., cognitive style, personality, computer anxiety). None of these studies, however, referenced an explicit theoretical framework combined with structural equation modeling to capture direct, indirect or covarying relationships.

In the business sector, Alavi and Joachimsthaler [1] conducted a meta-analysis of 144 findings from 33 studies and found that user-situational variables such as involvement, training, and experience were more important than psychological factors (e.g., cognitive style, personality, or demographics) to the success of DSS implementation.

Additional key constructs found in other studies are described as follows. Computing satisfaction has come to be seen as a surrogate measure for a system’s ability to facilitate decision-making and increase productivity [5]. This construct addresses a system’s configuration and its capability in being able to meet user needs. User involvement has generally referred to the activities of potential users during the systems development process [8]. The thinking has been that increased involvement by the potential user in the design of a system will increase satisfaction with the end product [8].

In addition, Sanders [29] developed a DSS satisfaction measure scale as a way of providing a dependent measure that could be used to measure system success. Surrogate measures such as satisfaction have often been used to measure system success when other outcome measures are not available due to methodological issues [12]. For this study, using a dependent measure such as “case outcome” was not deemed appropriate due to difficulties in linking cases with specific decisions, the multiplicity of people involved in making case decisions, and the multiplicity of factors involved, many beyond the agency’s purview, with an eventual case outcome.

Following an exhaustive review of 200 articles in the DSS field, Eierman, Niederman, and Adams [14] integrated system success factors in a conceptual framework that identified the key constructs in DSS research and delineated the relationships between these constructs (see Fig. 1).

The lines between the constructs represent the 17 pairs of empirically tested relationships. The Environment refers to the information system external to the DSS such as the larger MIS and whether it is up and operational or available when needed or whether it is subject to crashes. Task refers to the functions one is expected to do in order to use the DSS to accomplish their job. An example would be obtaining information under Maltreatment Pattern that is needed for the DSS from a police department or hospital. It does not refer to the task of using the computer. Implementation Strategy pertains to the way the DSS was designed or integrated into the work environment. DSS Capabilities has a broad range of indicators ranging from accuracy and timeliness to interpretation of results and range of functions. DSS Configuration refers to the way the system provides information to the user, i.e., information that is exactly what the user needs and has sufficient breadth and depth, and can be a mixture of hardware or software dimensions. User has generally been operationalized as characteristics of the person using the system including demographics, attitude or experience while User Behavior has typically been captured by calculating the amount, frequency and type of information used. Much research in the 1980s was focused on assessing user cognitive styles (analytical vs. intuitive) and designing systems accordingly. However, research on user characteristics or user behavior has failed to demonstrate clear indicators and is still the subject of much debate [20,27]. Furthermore, respondents’ age, gender or race was not able to be gathered in this study due to departmental concerns about identifiable information. And user behavior, which has typically been captured by calculating the amount, frequency and type of information used, was not felt to be an appropriate gauge of system satisfaction since the workers in this agency are required to use the agency’s MIS. As such, a scale focusing on Usefulness was utilized because Franz and Robey believe it encompasses both user characteristics and user behavior since the measure of a user’s attitudinal appraisal of the system’s usefulness has been established as an indicator of system success [17]. Finally, Satisfaction was assessed using Sanders [29] DSS satisfaction measured since the user’s perception of the utility of the
system can be used as a surrogate dependent measure of overall system effectiveness.

By developing the model as outlined in Fig. 1, Eierman and his colleagues hoped to graphically illustrate how measuring the performance of a DSS needs to account for not only all the constructs, but also the interrelationship and mutual influences between the constructs. Capturing these mutual influences has formed the basis for the use of structural equation modeling to increase the likelihood of specifying important causal relationships that are not always linear [2]. Overall, their primary goal in developing this model was to add to theory development in the Information System field to guide future research efforts of which this study is a part. As such, this paper will utilize structural equation modeling to test the theory quantitatively, thereby supplementing other research efforts.

3. Research questions and hypotheses

In the present study, the constructs described above were used to assess human service workers’ perceptions of satisfaction in using a DSS. The conceptual framework illustrated in Fig. 1 was incorporated into a structural equation model that assessed the worker’s decision making satisfaction as a criterion measure in using the risk assessment instrument as a decision aid.

The following research questions were examined:

1. Are the constructs of DSS configuration and capability, the environment, tasks, user characteristics, user behavior, and implementation strategy predictive of overall DSS satisfaction as reported by the workers?
2. Of the constructs listed in question 1, which are the most significant indicators of DSS satisfaction?
3. Are there additional covarying relationships between the constructs not already identified that would suggest areas for additional research?

In addition, the DSS literature utilizing these constructs was used to provide an empirical framework with which to assess such a system using structural equation modeling. Based on the literature, the following hypotheses were proposed.
Proposed SEM hypothesis: DSS Capabilities, the Environment, user Tasks, user’s appraisal of system Usefulness, system Configuration, and Implementation will predict overall Decision Making Satisfaction. As such, the following SEM sub-hypotheses were tested:

**H1.** As the extent of user’s perceived Usefulness of the system increases, the likelihood of Decision Making Satisfaction increases.

**H2.** As the favorableness of user attitudes towards the Configuration of the system increases, the likelihood of Decision Making Satisfaction increases.

**H3.** As the extent of user involvement in system development (Implementation) increases, the likelihood of Decision Making Satisfaction increases.

**H3a.** As the extent of user involvement in system development (Implementation) increases, the favorableness of user attitudes towards the Configuration of the system increases.

**H3b.** As the extent of user involvement in system development (Implementation) increases, the extent of user’s perceived usefulness (Usefulness) of the system increases.

**H4.** As the favorableness of user attitudes towards environmental constraints (Environment) increases, the likelihood of Decision Making Satisfaction increases.

**H4a.** As the favorableness of user attitudes towards environmental constraints (Environment) increases, the extent of user’s perceived usefulness (Usefulness) of the system increases.

**H5.** As the favorableness of user attitudes towards the Capabilities of the system increases, the likelihood of Decision Making Satisfaction increases.

**H5a.** As the favorableness of user attitudes towards the Capabilities of the system increases, the extent of user’s perceived usefulness (Usefulness) of the system increases.

**H6.** As the extent of task/system fit (Tasks) increases, the likelihood of Decision Making Satisfaction increases.

**H6a.** As the extent of task/system fit (Tasks) increases, the extent of user’s perceived usefulness (Usefulness) of the system increases.

Fig. 2 provides a structural equation model of the anticipated relationships.

### 4. Methods

#### 4.1. Data

The data to test these hypotheses were derived from a Worker Response Survey (see Appendix B), which was administered to all child protective services personnel throughout the study state that conducted investigations between January and June 1999. The survey was made available to the workers via the World Wide Web.
(WWW). This survey data was augmented by focus group data.

The focus groups were comprised of approximately 65 investigators, supervisors, and administrators from the eight sites throughout the state and took place during the weeks of June 19 and June 26, 2000. The sites were selected by state personnel to be representative of locale (urban and rural) and caseload (specialized and generalist). The interviews were conducted in their offices and involved three to eight members in each session. Focus group questions can be found in Appendix C. All interviews were tape recorded except one in a rural setting. The total length of the transcriptions was 463 pages. Additional discussion of the focus group methodology can be found at Fitch [4].

4.2. Procedures, constructs and measurement

All investigative workers in the department were invited via email to participate in the survey delivered via the WWW. Approximately 836 workers received the email with the link to the web-based survey. Since the need to fill out the survey was reinforced by department supervisors and program directors, it was estimated that there would be a 33–50% return rate, based upon the department’s prior response rate with other surveys, for a final sample of approximately 276 to 418 workers. The only worker-identifying information available was worker region/unit number so geographical representativeness could be determined.

The constructs were measured as follows. **Configuration** and **Capabilities** were measured through the Computing Satisfaction scale developed by Doll and Torkzadeh [12]. The scale consists of 12 items that measure five components of end-user satisfaction: content, accuracy, format, ease of use, and timeliness. The components are reflective of the configuration and capability dimensions as illustrated in Fig. 1 [14]. The 12-item instrument had a reported reliability of 0.92 and a criterion-related validity of 0.76 with good convergent and discriminant validity. Validity and reliability has also been established using confirmatory factory analysis with factor loadings greater than 0.72 being reported for the former and $R^2$ values ranging from 0.55 to 0.98 for the latter [13], while reliability in another study was reported at 0.90 [23]. The Cronbach’s alpha reliability for the sample used in this study was 0.95.

**Environment** and **Tasks** were measured using a scale developed by Goodhue and Thompson [19] that measures whether or not information systems and IT services in a given organization are meeting user needs. Specifically, in order for a system to have a positive impact on performance it has to be utilized and fit with the tasks it was designed to support. Goodhue and Thompson’s instrument was divided into three sections covering 11 factors and 21 dimensions in assessing how an organization’s MIS impacted worker performance. For the purposes of this questionnaire, five items representing two factors were chosen to represent these constructs. Three items came from the first section of the instrument and pertain to system reliability and were used to assess the environment construct. These items had reported Cronbach’s alpha reliabilities ranging from 0.60 to 0.88 and, for the sample used in this study, the Cronbach’s alpha was 0.78. The other two items, used to assess task, came from the second section of the instrument and pertain to task-job characteristics fit. They had Cronbach’s alpha reliabilities ranging from 0.73 to 0.76. The study’s sample had a Cronbach’s alpha value of 0.45. Issues related to these items will be discussed later.

As previously discussed, **Usefulness** addresses both user characteristics and user behavior [17]. The decision to eliminate a scale that measured specific user characteristics such as cognitive style was based on data indicating its failure to achieve statistical significance consistently [14,27]. Finally, with the overall length of the instrument of concern to the department, any effort to reduce its length was given high regard. The **Usefulness** construct was measured using the Perceived Usefulness scale developed by Franz and Robey [17], which has a reported Cronbach’s alpha reliability of 0.84. Cronbach’s alpha for this sample was 0.83.

In addition, two additional variables were incorporated—worker’s years of experience and perceived satisfaction with training on how to use the system (measured on 5-point Likert scale) at the recommendation of agency personnel who felt that those with more years of experience and training, a type of user characteristic, would find the information more useful in doing their job.

**Implementation** pertains to the extent users were involved in how the DSS was designed or integrated into the work environment. **Implementation** was measured by another scale developed by Franz and Robey [17] focusing on involvement with the design of the system. This dimension was measured through a 7-item scale and has previously demonstrated a Cronbach’s alpha reliability of 0.98 (study sample=0.80).

**Decision Making Satisfaction** assesses the user’s satisfaction when using the system as a decision aid and is used as a surrogate measure for overall system performance. **Decision Making Satisfaction** was measured
by utilizing Sanders’ [29] 7-item instrument. Factor analysis was used to establish construct validity and it has shown to have good validity and reliability in other studies [30]. The Cronbach’s alpha reliability for the sample used in this study was 0.95.

The survey was piloted with several agency staff and, as a result, some of the questionnaire items were re-worded in order to avoid technical jargon. The staff also assessed the questionnaire for usability and navigability and found the length of the questionnaire to be acceptable.

5. Results

5.1. Sample characteristics

The final sample included 252 usable surveys. This number reflects approximately 30.14% of the 836 personnel who were eligible to complete the survey during the study period, and, as noted earlier, is comparable to the response rate obtained by the department in other surveys. The workers’ mean length of experience conducting investigations was 4.5 years (median — 3 years, mode — 1 year). Responses were distributed throughout the state and appeared to reflect adequate representation of potential CPS investigators.

5.2. Data analysis

Individual scale scores were tabulated in Table 1 for the constructs used in the structural equation model to gauge how workers assessed each of those constructs.

Inspection of these scores indicates that workers tended to have a neutral to negative assessment of the constructs associated with the risk assessment instrument. If the risk assessment instrument is supposed to serve as a decision aid, the Decision Making Satisfaction average score would indicate that the risk assessment instrument is not performing effectively. Why it is not performing effectively is not clear from a simple analysis of the component scale scores, supporting the use of the structural equation model.

5.2.1. Confirmatory factor analysis

Software used for the SEM analysis was AMOS 4.0 [3]. AMOS uses the maximum likelihood method as its default method of computing parameter estimates. Missing data were handled using data imputation instead of listwise or pairwise deletion. Frequency of missing data for individual items ranged from 0% to 5% with an average of 1.3%. AMOS makes use of the Full Information Maximum Likelihood (FIML) method, which is felt to be less biased than means imputation [3]. Issues related to kurtosis and skewness of the sample data were also assessed by calculating the squared multiple correlations between each variable and all the rest with values greater than 0.90 being of concern [22]. This value was only reached by two items (#26 and #27), and not several items, so multicollinearity was not felt to be an issue. The correlation and covariances matrices can be inspected at: http://sitemaker.umich.edu/matrices. Goodness of model fit indicators used to analyze the results included chi-square divided by the degrees of freedom (CMIN/DF) as a measure of minimum sample discrepancy. This value takes into account chi-square’s sensitivity to large sample sizes. As such, any value less than 5 is an indicator of an adequate fitting model [3] although a value less than 3 would be preferable [22]. The Comparative Fit Index (CFI) was used as a comparison to a baseline model, with Kline [22] recommending a CFI above 0.9. In addition, the Root Mean Square Error of Approximation (RMSEA) was used in the full causal model as a population discrepancy function; it is also particularly well-suited for models with many parameters [3], such as the hypothesized model.

5.3. Dependent variable

**Decision Making Satisfaction**: Confirmatory factor analysis (CFA) indicated that all seven questionnaire items formed a useful factor. Regression weights ranged from 0.812 to 0.907 and all were significant at $p<0.001$. The comparative fit index (CFI) was 0.989 and the chi-square value was 69.195 (14 df, $p<0.001$, CMIN/DF=4.943).
5.4. Independent variables

Tasks and Environment: For the purposes of the confirmatory factor analysis, these two questionnaire factors were combined since a minimum of three items is needed in order to perform CFA [3]. The comparative fit index for these items was 0.991; the chi-square value was 31.476 (5 df, \( p < 0.000 \), CMIN/DF=6.295). The indicators were statistically significant at \( p < 0.001 \) with regression weights of 0.470, 0.933, 0.861, 0.249, and 0.145 except for the last item which was significant at \( p < 0.03 \). Even though this item (#12) was only marginally significant, it was retained due to its theoretical importance to the construct and the study.

Usefulness: The initial confirmatory factor analysis of these items indicated that item #18 did not load with the items on the factor with a t value of 1.094 (\( p = 0.274 \)). In addition, worker’s years of experience and satisfaction with training using the risk assessment instrument were dropped because they did not load with the factor. The CFA was run again and this time all the regression weights ranged from 0.231 to 0.864 with all associated t values significant at \( p < 0.001 \). The comparative fit index was 0.976 and chi-square was 185.792 (44 df, \( p < 0.001 \), CMIN/DF=4.223).

Implementation: The initial confirmatory factor analysis of these items indicated that item #29 did not load with the other items on the factor with a t value of 1.830 (\( p = 0.067 \)). Since this item did not significantly contribute to the overall factor it was dropped and the CFA was run again. This time all the regression weights ranged from 0.469 to 0.955 with all associated t values significant at \( p < 0.001 \). The comparative fit index (CFI) was 0.950 and chi-square was 144.432 (9 df, \( p < 0.001 \), CMIN/DF=16.048). Again, multicollinearity was noted between items #26 and #27.

Configuration: Confirmatory factor analysis (CFA) indicated that all four questionnaire items formed a useful factor. Regression weights ranged from 0.821 to 0.920 and all were significant at \( p < 0.001 \). The comparative fit index (CFI) was 0.999 and the chi-square value was 5.944 (2 df, \( p < 0.051 \), CMIN/DF=2.972).

Capabilities: Confirmatory factor analysis (CFA) indicated that all four questionnaire items formed a useful factor. Regression weights ranged from 0.709 to 0.831 and all were significant at \( p < 0.001 \). The comparative fit index (CFI) was 0.942 and the chi-square value was 316.483 (20 df, \( p < 0.001 \), CMIN/DF=15.824).

6. SEM analysis

6.1. Analysis of the initial causal model

Analysis of the initial hypothesized model indicated that it was not optimally specified and that several improvements were needed. Review of the regression weights indicated that several were not significant at \( p < 0.05 \). Despite the poor predictive capability of some of the constructs, the overall model appeared to have a good fit with the data. The CFI was 0.952 and the chi-square/df ratio was 2.6 (acceptable \(< 5\); ideal \(< 3\)). The RMSEA was 0.08 (ideal \(< 0.05 \)). But perhaps the most interesting observation was that the identified factors explained 72% (squared multiple correlations for Decision Making Satisfaction=0.716) of the variance in Decision Making Satisfaction. This suggests that the identified constructs did indeed play a role in predicting overall system Decision Making Satisfaction. What remained to be discovered was the nature of these relationship.

6.2. Model respecification

In the article that formed the bases for the hypothesized model, Eierman et al. [14] stated that not all of the investigated relationships had been shown to be statistically significant in all studies. Their proposed model encompassed widely diverging studies from a variety of settings and decision support systems. As such, one would expect that modifications would need to occur in any given situation. Respecification guidelines as outlined by Kline [22] were used to modify the model. The literature was revisited noting which relationships appeared to have the strongest support and which ones did not. Also, while not necessarily reflected in their diagram, Eierman et al. pointed out that some relationships seemed to occur in either direction [14]. For example, while Fig. 1 shows Implementation Strategy being a dependent of DSS Configuration, other literature indicates that DSS Configuration may be the dependent of the “involvement” dimension of Implementation Strategy [8]. Therefore, those variable were allowed to co-vary, specifically Implementation Strategy, Environment and Capabilities. Another step was to review again the measurement model used in the confirmatory factor analysis. Doing so raised concerns about the Tasks construct, as the initial regression weight for the item, “The problems I deal with frequently involve more than one agency,” of 0.15 clearly indicates that it was not loading very well. The next step involved inspecting all the goodness-of-fit
indicators and involved the addition or elimination of parameters based upon the modification indices produced by AMOS while maintaining fidelity to existing theory. Finally, once the new model was selected it was cross-validated using the cross validation index output (ECVI) provided by AMOS.

6.3. Analysis of final causal model

The final causal model (see Fig. 3) illustrates the end result of the respecification process outlined above. Paths were added and dropped while maintaining fidelity to the existing literature [12,14,17,19], the Tasks construct was eliminated and replaced by a single item, Task, and covariant relationships replaced some of the direct relationships. Furthermore, some of the error terms were found to be correlated. As alluded to above, the most noticeable change between the hypothesized and the final model is the elimination of the Tasks construct, since item #12 from that construct was not loading well. Dropping that item left item #11 remaining, which was renamed Task. Issues related to this modification will be discussed later. For the final model, the Goodness of Fit Summary indicated the CFI was 0.979, RMSEA was 0.054 and the ECVI was 6.097; all indicators of good fit. While the chi-square was 1250.308 with 720 df (p < 0.001), most likely significant due to a large sample size, the CMIN/DF ratio was 1.737 indicating, along with the other indexes, a reasonable fit. GFI or AGFI was not calculated due to the maximum likelihood estimation method AMOS uses when compensating for missing variables.

The final causal model explained the following variances in the dependent variables identified in the model: Decision Making Satisfaction—76%, Usefulness—73%, and Configuration—76%.

Table 2 summarizes the regression coefficients for the constructs used in the final causal model with associated T values and probability levels.

The following hypotheses were supported: H1 (p < 0.001), H2 (p < 0.049), H3b (p < 0.017), H4a (p < 0.005), H5 (p < 0.035), H5a (p < 0.012), and H6 (p < 0.002). H3–4 were not supported.

The purpose of this analysis was threefold: (1) To determine whether the constructs of DSS configuration and capability, the environment, tasks, user characteristics, user behavior, and implementation strategy were predictive of overall DSS satisfaction as reported by the workers. (2) Of the constructs listed in (1), which were the most significant indicators of DSS satisfaction. And (3), to determine whether there were additional covarying relationships between the constructs not already identified that would suggest areas for additional research?

Several of the constructual relationships were statistically significant as hypothesized; however, some of the parameters were not statistically significant or were not significant as hypothesized. Regarding H2,
even though there was a statistically significant relationship \((p<0.049)\), the relationship was inverse, indicating that while the workers’ were satisfied with the quality of the information provided by the system, the information itself was not helpful to them as a decision aid. That is, while having accurate and easy to read information may be important in making their reports, it did not necessarily serve them for the purpose of decision making. Due to the role it played in the overall SEM, this construct was left in the model. 

Implementation was not found to be directly related to Decision Making Satisfaction or Configuration, a finding also reached by King and Rodriguez [21] and Foster and Franz [16]. While Environment was found to be positively associated with Usefulness, it was not found to be directly related to Decision Making Satisfaction, a similar finding to Bajwa, Rai, and Brennan [7]. Tasks was changed from the way it was originally operationalized and, as a single item indicator, Task was found to have a statistically significant relationship with Decision Making Satisfaction, but not with Usefulness, a finding also reached by Barr and Sharda [9].

### 7. Discussion

#### 7.1. Research questions

As noted, this study sought to advance knowledge of human service workers’ perceptions of satisfaction in using a DSS. It did so by examining the relationships between constructs identified in the DSS literature related to DSS performance, and by incorporating focus group data to better understand how this risk assessment instrument was being used and to identify ways by which it might be improved.

**Question 1:** Are the constructs of DSS configuration and capability, the environment, task, usefulness, and implementation strategy predictive of overall DSS satisfaction as reported by the workers? Indeed, these constructs predicted overall system performance and worker satisfaction, except for the modification needed for the Tasks construct. This construct was the only one with the potential to capture information needed from outside the agency to inform decisions, an issue that was clearly articulated by the workers in the focus group interviews. Unfortunately, the two indicators for this construct apparently did not operationalize it successfully. Future studies should focus upon developing indicators to better capture this construct.

In addition, the Configuration construct appeared to have an inverse relationship to Decision Making Satisfaction. Examining the scale items, it appears the workers were distinguishing between the quality of the existing system information and the potential usefulness of the information provided by the risk assessment instrument. In other words, simply having accurate information in a system that is easy to use and which may be valuable for other aspects of their job does not necessarily make that information helpful in assessing risk and making decisions.

**Question 2:** Of the constructs listed above, which are the most significant indicators of DSS satisfaction? Usefulness was the most significant indicator of the risk assessment instrument’s ability to perform as a decision aid with a 0.86 regression coefficient. The next highest coefficient was 0.23 for Capabilities. While all of the other constructs played a role in predicting overall system satisfaction, they evidently played a lesser role compared to the worker’s perceived usefulness of the information provided by the risk assessment instrument. As such, efforts that focus solely upon improving the reliability of the existing MIS or making it faster, while important, will not significantly impact the decision-making satisfaction of the risk assessment instrument as a decision aid. The focus groups interviews provided many clues as to how to improve that usefulness and these findings are summarized shortly.

**Question 3:** Are there additional covarying relationships between the constructs not already identified which would suggest areas for additional research? In addition to the hypothesized relationships, three additional relationships, consistent with existing theory, were discovered in the sample data. Covariate relationships were found between Implementation and Capabilities and Environment and Capabilities. The former was significant at \(p<0.003\) with a correlation coefficient of 0.20 and the latter was significant at \(p<0.001\) with a correlation coefficient of 0.28. Covarying independent variables sometimes exist when there may be some unmeasured latent variable influencing both of them [31]. One can see how an unidentified latent variable involving the implementation strategy and environmental constraints would affect the capabilities of a system, i.e., if the larger agency does not value user input in the design of the MIS, then technological barriers may keep the system from optimally meeting users’ needs. The same can be said about the relationship between Capabilities and Configuration, which was significant at \(p<0.000\) with a 0.87 correlation coefficient. A system would need to be easy to use before one could comment about the content of the information produced by the system.
These findings provide a perspective on human service workers’ satisfaction in using the risk assessment instrument as an aid to improve their decision-making performance. Overall, workers were less than satisfied with its ability to function as a decision aid. The key piece of information from the survey, however, was not the level of worker satisfaction, but rather, the perspective it provided on the broader system process issues captured by the research questions. This perspective was further elaborated by the workers in the focus group interviews, which were, as noted earlier, comprised of approximately 65 investigators, supervisors and administrators from sites throughout the state.

In summary, while the focus group questions centered on the risk assessment instrument, the workers continually changed the topic of discussion to focus on the agency MIS and what they had to do to extract information from the MIS that could be used to complete the risk assessment instrument. In addition, barriers to accessing information from other people in the community (Task) were described by the workers with time being a crucial factor. Finally, when asked about what information they would deem worthy enough to cause them to reconsider an initial assessment or judgment about a case, the role of supervisors and input from other professionals in the community was instrumental in that regard. Information from the risk assessment instrument was not valued as highly.

7.2. Limitations of the study

Although the study design was unlikely to incur any specific errors due to sampling frames, the possibility for other design errors did exist. Specific to email or online surveys, Dillman [11] described the occurrence of coverage error that occurs when people deemed to be a part of the population do not receive the questionnaire for any particular reason, such as not being identified accurately in the agency email database, not having an accurate email address, or not receiving the email notification of the survey. In addition to Dillman, Couper identified other concerns related to the use of online surveys affecting the overall validity of study findings [10]. To that end, several steps were taken to minimize error that may be introduced due to the use of technology: The entire survey was on one screen so no screen-to-screen navigating was required; no color background or graphics to minimize download time and to ensure uniform presentation regardless of browser settings; standardized font; designed for the smallest screen resolution (640 × 480) to avoid problems with partial screen displays; no advanced interactive web technology elements such as Java scripts or XML; response boxes uniformly distributed in the same format throughout the page. The format was also designed to resemble conventional questionnaire formats so as to lend a sense of familiarity; sections were broken up by instructions for the value labels; the web link to the survey web page was embedded in an introductory email letter to preclude the need to type in the URL; and respondents were not forced to answer every question. While allowing the respondent to skip a question if she or he wished introduced the possibility of missing values, that approach was preferable over frustration with the web interface leading to premature termination of the survey [11]. Other factors also contributed to enhanced validity: the agency infrastructure aided in minimizing possible errors as all workers were on the same network, they had universal email, identical network configurations, already versed in using email and web browser, and identical web browsers (MS IE). One step not accomplished was establishing PIN numbers to limit unwanted access to the survey [10]. Requiring a PIN number was felt to be too troublesome for already overworked staff. Finally, the staff found the length of the questionnaire to be acceptable with an average completion time of 14 min during pilot testing.

The chief limitation cited with case study research, especially one that uses a mixed methodology of qualitative and quantitative approaches, is generalizability [34], and caution should be observed regarding the generalizability of this study’s findings. One way to address this limitation of case study research would be to conduct a replication of the study to validate the respecified model. While not having the generalizable strengths of an experimental design, it would still show that the underlying theoretical framework holds some saliency.

Finally, although the Worker Response Survey appeared to have an adequate response rate compared to previous surveys conducted by the department, and missing data were not problematic, Rubin and Babbie [28] believe that a response rate of at least 50% is needed for analysis and reporting. However, they also note that there is no statistical basis for this rate, and that it is more important that there be no evidence of respondent bias. As previously discussed, responses were received from a broad range of the state and the average tenure of the respondents reflected that of the current department workforce. Nevertheless, other types of respondent bias not known to the researcher may still exist.
7.3. Implications for practice and policy

Although the limitations discussed above should be kept in mind, the findings of this study have implications for practice, policy, and future research. This study suggests that any effort to enhance the risk assessment instrument should be related to the concept of increasing the usefulness of the information in the instrument. The structural equation modeling of the Worker Response Survey indicated that of the six factors associated with overall system satisfaction, usefulness of the information in the risk assessment instrument had the strongest relationship with decision-making satisfaction. While factors related to system reliability, worker involvement in the design of the risk assessment instrument, ease of use, and accuracy of the information in the system were all necessary components of the system, the findings of this study suggest that those efforts made to increase the usefulness of the information in the system would have the biggest impact upon the workers’ perception of the risk assessment instrument being an aid to them in their decision-making context.

Focus group findings further shed light on how the risk assessment instrument could be enhanced to increase the usefulness of the information. The human service workers spoke about the need to have easier access to prior case information, and specifically case narratives, in order to learn from the experiences of previous workers. The narrative field of the instrument was reported to be a place to record information not amenable to the checkboxes or that required greater explanation, such as when a case is substantiated based on risk, but the courts refuse to take action.

The value of risk assessment items informed by “information outside the agency” was discussed frequently by the workers in the focus groups because it was their way of making the assessment of risk more objective. As such, it would also appear to be helpful for a worker to read a prior case narrative and be able to distinguish readily which risk assessment items had been corroborated by a person outside the agency. In addition, if a subsequent referral occurred with the family, then having that information associated with a case readily recognizable in the case narrative would facilitate the process of contacting them again. This facilitation would serve to circumnavigate one of the external system boundaries detrimental to overall system performance [33]. Finally, the human service workers placed high value on discussing cases with their supervisors, and risk assessments formally staffed with a supervisor appeared to have greater credibility than one based on their subjective opinion alone. As such, using a color-coded symbol as a part of the online interface to identify which risk assessments had been staffed formally may prove to be helpful to a subsequent worker.

7.4. Directions for future research

This study needs to be replicated in other locales to further validate the respecified model. While each state may have a different type of risk assessment instrument, the workers will still be confronted with similar issues and will have similar information needs. If the model is indeed validated, then differing capabilities of state CPS MISs could be examined. The survey could be administered and it will show which constructs have the strongest relationship with Decision Making Satisfaction in their own systems. While Usefulness was the key construct in this study, for another agency it may be the Configuration of the reports or the Capabilities of the system. Once identified, focus groups or other data gathering methods could be employed to understand the interface between the worker and the use of technology better in that work setting.

In addition, other relationships between the constructs need to be researched. As Eierman et al. point out, they found empirical studies for only 39 of the 56 possible relationships illustrated in Fig. 1 [14]. This model has already found saliency within a larger general systems theory framework [18] that specifically accounts for organizational and socio-technical factors. It is these organizational constructs which differ vastly between the human services and business sectors pertaining to decision making along the dimensions of routineness, quantity, risk, quantification and environmental complexity [32]. How these dimensions may affect the constructs outlined by Eierman et al. and others remains to be seen.

Acknowledgements

I would like to thank Professors Dick Schoech and Charles Mindel for their helpful suggestions and comments in conducting this research and data analysis. I would also like to thank the Editor and anonymous reviewers for their many constructive suggestions. Helpful comments on earlier drafts of this work were received from my mentor, Professor Kris Siefert.
## Appendix A

### Risk assessment concepts/questions

**Child Vulnerability:** Are the following risk items present?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>UNK</th>
<th><strong>Child Fragility:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Is any child five years old or younger?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Is any child physically impaired?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 Does any child need special care?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 Is any child mentally retarded (diagnosed or indications)?</td>
</tr>
</tbody>
</table>

**Child Behavior:**

|     |    |     | Is the behavior of any child hostile or aggressive? |
|     |    |     | Is any child’s behavior seen as provoking? |
|     |    |     | Is the behavior of any child disturbed or unusual? |
|     |    |     | Is the behavior of any child fussy or irritable? |

**Protection:**

|     |    |     | Is any caregiver unwilling or unable to protect children? |
|     |    |     | Does any alleged perpetrator, child or adult, have access to any children in the family? |
|     |    |     | Is any child unable to protect him/herself? |

**Home Environment:** Are the following risk items present?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>UNK</th>
<th><strong>Stressors:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Is the home crowded?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Is any caregiver experiencing any recent significant stress about toilet-training or other developmental issues?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Is the family experiencing any recent significant stress?</td>
</tr>
</tbody>
</table>

**Dangerous Exposure:**

|     |    |     | Are the home conditions unsanitary? |
|     |    |     | Are conditions in and/or around the home hazardous? |
|     |    |     | Do behaviors of any household member expose children to dangers? |

**Caregiver Capability:** Are the following risk items present?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>UNK</th>
<th><strong>Knowledge:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Are any caregivers significantly lacking knowledge of child development?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Do any caregivers frequently fail to understand the child’s needs?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Are expectations with regard to any child’s behavior/development unrealistic?</td>
</tr>
</tbody>
</table>

**Skills:**

|     |    |     | Does any caregiver significantly lack parenting skills? |
|     |    |     | Does any caregiver lack impulse control? |
|     |    |     | Is the discipline used disproportionately harsh compared to the misbehavior? |
|     |    |     | Is any caregiver unable to communicate effectively? |
|     |    |     | Is any caregiver unable to cope appropriately with stress? |

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>UNK</th>
<th><strong>Capacity:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does any caregiver have a needy personality?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does any caregiver have a history of significant depression (diagnosed or indications)?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Has any caregiver ever attempted suicide?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does any caregiver have a significant impairment in mental capacity (diagnosed or indications)?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does any caregiver have a history of drug or alcohol abuse?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Were any caregivers abused or neglected as children?</td>
</tr>
</tbody>
</table>

**Quality of Care:** Are the following risk items present?

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>UNK</th>
<th><strong>Quality of Connection:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does any caregiver lack empathy for any child?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does any caregiver show a lack of attachment to any child?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Has any child experienced a significant period of separation from the primary caregiver?</td>
</tr>
<tr>
<td>Question</td>
<td>Response to CPS: Are the following risk items present?</td>
<td>Social Environment: Are the following risk items present?</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>35 Is any caregiver self-centered or narcissistic?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>36 Is any child unwanted or seen as a burden?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37 Does any caregiver seem to dislike like any child?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Emotional Care:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 Is a caregiver insensitive or rejecting toward any child?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39 Is any child singled out, scapegoated, isolated, or humiliated?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical Care:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 Has any child been inadequately supervised or left with an inappropriate caregiver?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41 Has any child been denied essential medical treatment?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 Is there an overall lack of physical care for any child?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social Environment:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43 Is the family socially isolated?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>44 Are the social relationships of any caregiver primarily negative?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 Is the extended family unsupportive?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social Violence:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46 Has any caregiver ever been a victim of spousal abuse?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>47 Has any caregiver ever been a perpetrator of spousal abuse?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48 Does any caregiver in the home promote violence?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49 Does any caregiver have a history of criminal involvement?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 Is there an imbalance of power between adults that affects any non-perpetrator’s ability to protect a child?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Response to CPS:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 Does any caregiver take the allegations less seriously than CPS?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>52 Is a caregiver unmotivated/unrealistic about change?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53 Does any caregiver refuse to cooperate?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54 Is any caregiver hostile toward CPS?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Deception:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 Does any caregiver seem unaware of or deny risk to children?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>56 Does any caregiver refuse to disclose important information?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57 Do any explanations offered seem implausible?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58 Are any attempts made to deliberately mislead CPS?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maltreatment Pattern:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59 Has there been a prior abuse/neglect investigation (or, for FAD, serious incidents or complaints)?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>60 Is there a prior investigation involving any family member with a finding of risk indicated or controlled?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 Is there a prior history of sexual abuse of any family member as a victim or perpetrator?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62 Has any child been removed from the home?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 Are there other indications that any child from this family has been abused or neglected in the past?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64 Has there been a recent incident of abuse/neglect (within the last 6 months or so)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 Has any prior incident resulted in a severe outcome?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 Has a violent act occurred which could have resulted in injury but did not?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Severity:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67 Is actual or potential harm severe?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>68 Was any child born addicted or exposed to drugs or alcohol?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69 Has any child suffered a physical injury?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 Did any child suffer multiple injuries?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>71 Has sexual penetration occurred?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>72 Did the abuse/neglect of any child require immediate medical care?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73 Is the maltreatment premeditated, bizarre, unusual, or sadistic?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trend:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>74 Are incidents escalating in severity?</td>
<td>YES</td>
<td>NO</td>
<td>UNK</td>
</tr>
<tr>
<td>75 Are more people becoming involved, either as a victim or perpetrator?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 Have incidents been occurring more frequently?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77 Have the types of abuse or neglect been expanding (or, for FAD, the types of incidents)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B

Worker Response Survey

Decision Making Satisfaction

1. Utilization of the risk assessment instrument has enabled me to make better decisions.
2. As a result of the risk assessment instrument, I am better able to set my priorities in decision making.
3. Use of data generated by the risk assessment instrument has enabled me to present my arguments more convincingly.
4. The risk assessment instrument has improved the quality of decisions I make in this organization.
5. As a result of the risk assessment instrument, the speed at which I analyze decisions has increased.
6. As a result of the risk assessment instrument, more relevant information has been available to me for decision making.
7. The risk assessment instrument has led me to greater use of analytical aids in my decision making.

Task/System Fit

8. I can count on the risk assessment instrument to be "up" and available when I need it.
9. The risk assessment instrument is subject to frequent system problems and crashes.
10. The risk assessment instrument is subjected to unexpected or inconvenient down times which makes it harder to do my work.
11. Frequently the problems I work on involve answering questions that have never been asked in quite that form before.
12. The problems I deal with frequently involve more than one agency.

Usefulness

13. To what extent do you actually use the risk assessment instrument compared to your original expectations?
14. To what extent could you get along without the use of the risk assessment instrument?
15. To what extent does the risk assessment instrument assist you in performing your job better?
16. To what extent did you get along better on your job before the risk assessment instrument was implemented?
17. To what extent do you actually use the information that is provided to you by the risk assessment instrument?
18. To what extent does information that you receive from the risk assessment instrument require correction?
19. To what extent does the risk assessment instrument overload you with more information that it seems you can possibly use?
20. To what extent does the risk assessment instrument produce information that seems to be just about exactly what you need?
21. To what extent do you understand what this system does in assisting you with your job?
22. To what extent is the system troublesome for you, or difficult to operate, or to interact with, in order for you to get information to accomplish your job?
23. To what extent would you like this system to be modified or redesigned all over again from the beginning?
24. To what extent is this system actually used compared to the total number of people who potentially could be using it?

Implementation

25. To what extent did you, rather than the developers of the risk assessment instrument, take the initiative (or the lead) to explain or clarify your information needs?
26. To what extent did you, rather than the developers of the risk assessment instrument, guide, direct, and lead the process of specifying and/or clarifying the input requirements and details for this system?
27. To what extent did you, rather than the developers of the risk assessment instrument, guide, direct, and lead the process of specifying and/or clarifying the output requirements and details for this system?
28. To what extent did meetings between users and the developers of the risk assessment instrument consist of questions and answers led by the analyst rather than the users?
29. To what extent would you say that the developers of the risk assessment instrument, rather than the users, assumed the major responsibility for making sure that this system satisfied your stated needs and objectives?
30. To what extent were you, rather than the developers of the risk assessment instrument the
dominant influence in guiding and directing the technical aspects of this system such as file design, data origin, and programming?

31. To what extent were you, rather than the developers of the risk assessment instrument, the dominant influence in guiding and directing the testing of this system?

Configuration

32. Does the system provide the precise information you need?
33. Does the information content meet your needs?
34. Does the system provide reports that seem to be just about exactly what you need?
35. Does the system provide sufficient information?

Capabilities

36. Is the system accurate?
37. Are you satisfied with the accuracy of the system?
38. Do you think the output is represented in a useful format?
39. Is the information clear?
40. Is the system user friendly?
41. Is the system easy to use?
42. Do you get the information you need in time?
43. Does the system provide up-to-date information?

Completion/training

44. How realistic is it to complete the Intranet Risk Assessment within three days of completing your most significant contacts?
45. To what degree do you feel the Risk Assessment training was helpful?

Amount of experience as a CPS Investigator and/or Supervisor:
_____ Years (Indicate “0” if less than one year)
_____ Months
Region #__________ Unit #__________

Appendix C

1. What do you believe the purpose of the risk assessment instrument is?
2. Which of the concepts in the risk assessment instrument are the most valuable to you? For which types of decisions and types of maltreatment are they most valuable? Why?
3. Which of the concepts in the risk assessment instrument are the most difficult to use? For which types of decisions and types of maltreatment are they most difficult to use? Why?
4. What types of information does risk assessment instrument typically not capture that you usually incorporate when you make case decisions?
5. Given a limited amount of time, what information is most critical to obtain on a case?
6. What type(s) of information cause(s) you to reconsider your initial decision on a case?
7. Do you think about cases differently with the risk assessment instrument than you did before the new system?
8. How would you know that you are overlooking something that has not been considered in your decision-making process? How would you know you have obtained all the information necessary to make a case decision?
9. Is the amount of time you have between the last collateral contact and filling out the risk assessment instrument sufficient? Why or why not?
10. What is the most important thing you would change about the risk assessment instrument?

References

2152


Dale Fitch received a Master of Social Work (1984) and a Ph.D. (2001) from the University of Texas at Arlington. He has a broad range of experience including private practice, institutional mental health, and hospital social work. His research specialties include management of information systems in human service organizations, systems theory, and child abuse with practice interests in administration, community practice, and policy.