California Social Work Education Center

C A L S W E C

THE EFFECTS OF COMPUTERIZATION ON PUBLIC CHILD WELFARE PRACTICE

RESEARCH REPORT

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1999

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CALSWEC PREFACE

The California Social Work Education Center (CalSWEC) is the nation's largest state coalition of social work educators and practitioners. It is a consortium of the state's 18 accredited schools of social work, the 58 county departments of social services and mental health, the California Department of Social Services, and the California Chapter of the National Association of Social Workers.

The primary purpose of CalSWEC is an educational one. Our central task is to provide specialized education and training for social workers who practice in the field of public child welfare. Our stated mission, in part, is "to facilitate the integration of education and practice." But this is not our ultimate goal. Our ultimate goal is to improve the lives of children and families who are the users and the purpose of the child welfare system. By educating others and ourselves, we intend a positive result for children: safety, a permanent home, and the opportunity to fulfill their developmental promise.

To achieve this challenging goal, the education and practice-related activities of CalSWEC are varied: recruitment of a diverse group of social workers, defining a continuum of education and training, engaging in research and evaluation of best practices, advocating for responsive social policy, and exploring other avenues to accomplish the CalSWEC mission. Education is a process, and necessarily an ongoing one involving interaction with a changing world. One who hopes to practice successfully in any field does not become "educated" and then cease to observe and learn.

To foster continuing learning and evidence-based practice within the child welfare field, CalSWEC funds a series of curriculum sections that employ varied

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research methods to advance the knowledge of best practices in child welfare. These sections, on varied child welfare topics, are intended to enhance curriculum for Title IV-E graduate social work education programs and for continuing education of child welfare agency staff. To increase distribution and learning throughout the state, curriculum sections are made available through the CalSWEC Child Welfare Resource Library to all participating schools and collaborating agencies.

The section that follows has been commissioned with your learning in mind. We at CalSWEC hope it serves you well.

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ACKNOWLEDGMENTS

A successful conclusion to this research project would not have been possible without the contributions of a number of people. We want to thank Nancy Dickinson and Sherrill Clark, past and current Directors of the California Social Work Education Center, for their support and guidance through the administrative and design changes over the 2-year span of the study. William Donnelly, Margaret Polinsky, and Rick Posten at the Los Angeles County Inter-University Consortium donated expertise, resources, and support when most needed. Paula Gelber Dromi produced the empirical curriculum based on the study.

Dana Boggio, Mindi Kirk, Jackie Ramos, and Burton Stiefel diligently performed the data collection and entry for the project. Paula Jamison and Melinda Morgan collected observation data, and Houda Assaly assisted with the analysis of these data. Grace Orpilla explored the implementation issue with the Department of Children and Family Services. Susan Arding and Elizabeth Crudo graciously facilitated the data collection in the San Francisco Department of Human Services. In Los Angeles DCFS, the following individuals were of great help in moving this project forward: Greg Breuer, Carlos Castillo, Peter Digre, Michael Gray, Mitch Mason, Roberta Medina, Marina Miller, Louisa Moore, Phil Moser, Nadariah Nayo, Trish Ploehn, Joi Russell, Susan Wiebush, and David White.

Finally, and most important, we want to thank the caseworkers in San Francisco and Los Angeles who took time out of their incredibly busy schedules to participate in this study. We were consistently impressed with their dedication to their jobs and their

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clients, with their flexibility in balancing the many demands of the job, and with their unfailing hospitality and good cheer. It is our hope that the conclusions of this study will be of assistance to them in carrying out their jobs.

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EXECUTIVE SUMMARY

The benefits of computerizing child protective services are being recognized on both federal and local levels, and progress is slowly being made toward a unified national child welfare database. Automated child welfare information systems have been included in federal legislation establishing criteria for new data collection that dates back to the Child Abuse Prevention and Treatment Act and Adoption Reform Act of 1978. Over the years, legislation emphasizing the need for uniform, national information systems regarding children in the public child welfare system has been passed. The 1986 amendments to Title IV-E of the Social Security Act mandated the development of a nationwide database (the Adoption and Foster Care Analysis and Reporting System [AFCARS]). The Omnibus Budget Reconciliation Act of 1993 made funding available for the planning, design, development, and installation of statewide, automated child welfare information systems that can then feed the national database.

In California, the Child Welfare Services Case Management System (CWS/CMS) was mandated by Chapter 1294, Statutes of 1989, SB370 to computerize public child welfare services. According to the State's CWS/CMS website (California State Department of Social Services, n.d.) the purposes of the system are to make "better case management services" and to provide "comprehensive and current information" to both frontline workers and program administrators. For the first time the child welfare systems of all of California's 58 counties are to be linked in one statewide system.

"The CWS/CMS is a state-of-the-art, PC-based, Windows application" (California State Department of Social Services, n.d.). As of May 1999, there were 16,000 active

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system users, and over 150,000 active cases. CWS/CMS has attracted broad support and has been seen throughout the child welfare profession as a welcome development that will use technology to solve the problems of families reported for child abuse and neglect. Los Angeles County, with one of the largest child welfare services in the country, is in the process of bringing 5000 staff online (California State Department of Social Services).

This study reviews the effects of this promising computerization program for child welfare caseworkers. It examines the impact of the CWS/CMS on child welfare case management practices in the Los Angeles County Department of Children and Family Services (LAC DCFS) and the San Francisco City and County Department of Human Services (SF DHS). The objective has been to measure the extent to which computerization has affected specific casework practices and to identify other factors that have influenced computerization. This study contributes to the understanding of how the implementation of systemwide computerized documentation affects the decisions and practices of frontline workers.

LITERATURE REVIEW

Most of the empirical literature on technological change in organizations focuses on the ways in which workers adapt to those changes. The attributes of a new computer system itself are important considerations for workers, including the ways in which it affects the nature and, especially, the quantity of their work. There is nothing in the literature regarding the effect of ethnicity on response to technological change, and little on gender. Age-related attributes seem to be the most important factors that workers

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themselves bring to the technological change, but it is actually both experience with computers and time on the job, rather than age itself, which are seen as important. And the effects of computer proficiency and computer anxiety, both age-related, are of importance initially, but tend to diminish over time as workers develop proficiency, reduce anxiety, and adapt to technological change.

Perhaps the most important general insight from the literature is that attitudes toward technological change, and workers' consequent adaptations, are embedded in their attitudes toward the job and their agency. The introduction of a new computer system, for workers, is not an event that is separate from other ongoing struggles and projects within the organization. The way they adapt to a new computer system will be a continuation of existing ways in which agencies and workers adapt to each other. Job satisfaction, the nature of work involvement, organizational and professional ideologies, and, especially, views on the ability of the agency generally to successfully negotiate change all affect the ways in which workers adapt to change. It seems that involving workers in the planning and implementation of change may be the best way to maximize the positive effects of these factors. This may be particularly true in child welfare, given the problems with job satisfaction, the dominance of professional and ethical ideologies pertaining to information technology, and the often bureaucratic nature of these agencies.

Less is known about the effects of computerization on the ways in which workers experience their jobs daily. Computerization may affect attitudes toward the agency, such as the feeling that the organization has increased its power over workers and its

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monitoring of work. The only empirical evidence that bears directly on the effects of computerization on the work of public child welfare suggests that it may increase documentation requirements and therefore workload as a whole. It is generally agreed that computerization has the potential to drastically alter workplace human interactions, but the empirical evidence is mixed on this subject. The best that can be said is that the social effects of computerization are unpredictable for specific situations; indeed depend on the specifics of the technological change and of the existing social relations.

METHOD

Variables (both scales and individual items) which were expected to change were compared with paired-samples t-tests. Scales used on the pre- and postsample comparisons were derived from factor analysis of the same items on the entire presample. Hierarchical linear regression analysis was used to explore the ways that variables in the study account for the observed pre/post changes in CSWs' work practices and attitudes.

FINDINGS

Each new technological system is unique and the implementation and use of each is embedded in the unique attributes of the implementing agency. We need to take care not to generalize the conclusions of this study beyond its unique circumstances. CWS/CMS is a particular computer system for public child welfare, currently used only in California. Participation in the study was limited to FM&R workers in two California counties. Even more, the timing of data collection within the design of this study requires consideration of the applicability of conclusions over time even to these

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workers in this setting. With the two-time design of this study, the degree to which the use of computers has become embedded in daily practice, the extent to which its use has supplanted the old paper system, and the extent to which measurable changes in practice and social interactions have stabilized remain uncertain. Overall, the conclusions of this study indicate that the implementation of CWS/CMS has not led to drastic changes in the ways in which CSWs carry out their daily work. A key finding is that the amount of time that caseworkers spend with clients is unchanged by the computer system. Indeed, as we describe the conclusions of the study, it is clear that a significant barometer of CWS/CMS impact is the fact that many important measurements did not change from pre- to postsurvey. However, this study does demonstrate that CWS/CMS has led to some modest but crucial changes in how workers spend their time on the job. It has affected the quantity and quality of relationships with others on the job, and it has changed some attitudes of workers toward their agency and their job.

CSWS and CWS/CMS

Before the implementation of CWS/CMS, the attitudes of these FM&R workers toward computers was generally positive. Fears about the limits of computers was just below the mid-point of the 5-point scale (at 2.95), while beliefs about the usefulness of computers in regards to making information available was high (3.91), as was the expression of positive attitudes toward computers in the profession (3.88). Ambivalence about the overall usefulness of computers, however, was expressed in the lower (2.94) score on feelings about the benefits of computers to professional staff. Perhaps these

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relatively benign attitudes toward computers are due to the quite high degree of general computer proficiency that these workers had prior to CWS/CMS. At the pretest, three quarters of the CSWs rated themselves as above beginner level on computers, and only a small minority (6%) had no computer experience at all. All of the caseworkers that we observed had considerable computer experience and they were using the computers on their desks to a high degree even before CWS/CMS came online.

In examining the use of CWS/CMS at the time of the posttest, it is apparent that this data collection time caught workers well into, but not completely through, the transition from the old paper files to the new system. All subjects were using CWS/CMS for at least the most basic tasks and many were using the system for all of the tasks that we had identified. However, many of the subjects were not yet using the system for all tasks. These data, together with other data from DCFS, suggest that given the gradual implementation process chosen by DCFS, a full 2 years may need to pass after implementation before use of the computer system has become routine.

Based on their experiences with CWS/CMS to date, CSWs were not satisfied with the system. Satisfaction with the time it takes the computer to accomplish various tasks was only 2.32 on a 5-point scale, and satisfaction with the accessibility and quality of information through the system was only 2.83. Considerable time and energy was required by the observed caseworkers to work through their initial transition to CWS/CMS. One caseworker stated, "It took me an hour just to document three phone calls." These low satisfaction scores are of concern, since saving time and increasing the quality of information are exactly the stated goals of the CWS/CMS. More

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optimistically, though, satisfaction may rise both as workers become more proficient at the use of CWS/CMS, and as the system itself is modified to improve performance.

Interestingly, all of the expectations of CSWs regarding the advent of the computer system (positive and negative) were exaggerated beyond the reality which appeared after the use of CWS/CMS. For example, the actual contribution that CWS/CMS makes in the CSWs' work was rated only 2.69 (on a 5-point scale), compared with the expected contribution of 3.25. Likewise the fear that CWS/CMS would lead to more monitoring of work was rated at 3.96 before implementation, down to 3.51 afterwards. The observed caseworkers generally were looking forward to the new system, though they had some concerns. One commented, "In the long run, the new computer system will be great. It will force people to keep the information up. But we spend all our time in the field." Another remarked, "In the long run it will have a positive effect, but it will slow down work at first." The moderate perceptions by workers after the implementation of CWS/CMS reinforce our general observation that the effects of the computer system are not drastic. Certainly, they are not as extreme as the workers themselves had anticipated.

Information Sources

CWS/CMS must, if it is to meet its stated goals, "facilitate caseworker decisions by providing caseworkers with immediate access to case file information and reducing the time spent by workers searching for case information" (Statewide Automated Child Welfare Information Systems, 1993, p. 67940). There is no evidence from this study that this goal is being achieved. Presumably, the effective use of the CWS/CMS would

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lead to a shift toward more efficient ways of eliciting and using information. However, in the four sets of items in this study through which we measured the relative use of various sources of information before and after CWS/CMS, no consistent patterns of change emerged. In fact, though there were some differences, the most notable finding is the similarity between the ways in which information was collected and used in the practice decisions of FM&R CSWs before and after CWS/CMS. In particular, the reliance on the computer as a source of information did not change after the implementation of CWS/CMS.

It is here that consideration of the possible effects of the time of data collection needs to be considered. It is a plausible interpretation that, while workers are struggling to use the computer system for the mandated data entry requirements, their comfort and skill with the system has not progressed to the point where they are enthusiastically and creatively using the system to replace their old ways of doing business. They continue to rely on colleagues, resource directories, and their own knowledge to obtain the information needed for case decisions rather than turning to the new computer system. Another, perhaps equally plausible, interpretation is that the computer will not in the long run change the ways in which caseworkers obtain and use information (i.e., that the computer files will simply be used in the same manner as the old paper files). If this is the case, it is not clear how computerized child welfare information systems will lead to more efficient and effective case decisions.

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Use of Time on Casework Activities

It is an important finding of this study that CWS/CMS has led to more time being spent doing documentation related to cases. The percent of time on *paperwork* increased from 30% to 34%, or from 4.43 to 4.61 on a 5-point scale. Observations during the transition to the CWS/CMS system clearly showed more time and energy devoted to case documentation. Early in the transition, much of this was due to simply learning how to use the new system. Another important factor, however, is that before CWS/CMS, workers were completing the required documentation in the field during visits with clients and collaterals, then simply filing them when they returned to the office. After CWS/CMS, they must take notes in the field, then complete the forms on the computer after returning to the office.

It is an important related finding that daily time spent with clients remained at about 32%. Interestingly, the increased time spent on paperwork was compensated for in part by a decrease in the percent of time spent on the telephone, which declined from 19.6% to 17.1%. We are not certain exactly how time spent on the telephone diminished, especially since other survey findings showed that the use of the telephone as a source of information actually increased at times. One worker said, "Now I don't want to make any more phone calls. It's turning out to be so much work just to document a phone call." Perhaps, unlike face-to-face contact with clients, some of the telephone work can be reduced in order to eliminate increased documentation.

In addition, time allocated for staff development diminished from pre- to postdata collection, but this may somehow be a function of the increased training necessary for

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CWS/CMS itself. During the transition period to CWS/CMS a great deal of computer-related training was available. Generally, in spite of the important difference in the amount of paperwork, time allocations for casework activities remain quite similar between pre- and posttests, again demonstrating that core casework activities are not drastically altered by the computer system.

Workplace Interactions

Another key finding is that CSWs spend more time alone after CWS/CMS than before—from 37% of their time to 44.5%. Presumably, this is directly related to the increased time spent on case documentation on the computer. This in turn has led to less time spent with others, especially coworkers.

While observing casework activity, we were impressed with the amount of informal teamwork among workers. CSWs were constantly consulting with each other, translating, sharing resources, visiting each other's clients, and even helping to move the belongings of other CSWs' clients. These observations reinforce the very high ratings given by CSWs to relationships with coworkers. In addition we were struck by the frequency and extent of supervisor involvement with cases. CSWs were having up to a dozen brief consultations with supervisors over the course of a day in the office, and at times calling supervisors from the field. At least some of the supervisors observed were extremely supportive of the caseworkers, always willing to listen to CSWs' problems and concerns. While the quality of relationships with coworkers reportedly was not diminished by CWS/CMS, there is evidence of more problems in relationships with supervisors. The perceived supportiveness of supervisors diminished

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from 4.54 to 4.30 (still very high) on a 5-point scale. And the percent of time with supervisors that was spent discussing work performance increased from 4.1% to 5.7%. These findings suggest that the administrative demands inherent in the implementation of CWS/CMS may have led to some increased tension between workers and supervisors. Results from the regression analysis indicate that these tensions are greater for ethnic minorities than for Whites.

Transferred Cases

While problems with information in transferred cases generally occurred only *Sometimes*, it is clear that the incidence of these problems increased after CWS/CMS. Many of these problems were observed in the field during the early weeks of the transition to CWS/CMS. For some reason, a number of clients were listed as 97 years old. Another client had two biological fathers. A number of cases were not filled out completely when transferred. One caseworker did not have all of his cases listed on his caseload, indicating to his supervisor that his caseload was lower than it was. Again, these are worrisome findings regarding a system with the goal of increasing the accuracy and timeliness of information. We believe, however, that these problems are most likely temporary, the result of the need at the onset of any new computer system implementation to quickly input large amounts of data by relatively inexperienced staff.

Attitudes Toward DCFS/DHS

Important attitudes toward the agency were not affected by CWS/CMS. Generally positive attitudes (around 3 on a 5-point scale, or *Neutral*) decreased slightly but not statistically significantly in the posttest. An important finding is that CSWs did not feel

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that their work was controlled by the agency more after CWS/CMS than before. Apart from beliefs about the agency itself, however, some attitudes toward the job were negatively affected by CWS/CMS. Workers were less likely to like the job, and more likely to feel they were not getting enough recognition on the job. Apparently, while not blaming the agency, workers felt the CWS/CMS was making their job more of a struggle in some ways. At the same time, however, they were more likely to express accomplishment from the job after CWS/CMS. Perhaps workers feel that overcoming the demands of the computer system is an accomplishment in itself, or perhaps they feel that, in spite of the difficulties, use of CWS/CMS is congruent with their image of themselves as modern professionals.

Multivariate Analysis

Significant conclusions from the multivariate analysis do not present a coherent pattern of influences on the important outcomes of the study. The important conclusions from regression analysis lie in nonfindings, indicating the stability of the changes that were found in pre- and postcomparisons. For the most part, these changes persist regardless of the age, gender, ethnicity, and education of CSWs. They are consistent across counties and regardless of length of time on the job. In addition, computer proficiency and computer use do not predict the effects of CWS/CMS on casework practices.

CONCLUSION

In summary, this study has made a contribution to our understanding of the ways in which computerization affects the daily practice of caseworkers in public child

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welfare. We have seen that contemporary workers in the human services are computer proficient and are willing and able to take on the demands of new technologies. However, it remains to be seen whether or not CWS/CMS will meet the goals of more efficient and effective decision-making by CSWs. While it is true that the documentation demands of computers lead to more time spent doing documentation, they do not lead to less time being spent with clients. More time doing documentation at the computer means more time spent alone, and less time spent with co-workers and supervisors. In addition, the transition to computerized casework brings some tension to supervisory relationships, and enhances some negative attitudes toward the job. Perhaps most important, however, are the conclusions that both the core activities of casework and the quality of social relationships on the job remain essentially untouched by the transition to computerization.

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MODULE I

INTRODUCTION

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MODULE I
INTRODUCTION

The child welfare system today is a vast state bureaucratic enterprise whose purpose is to protect children from abuse and neglect, primarily at the hands of their parents. It is the institutional manifestation of a public sentiment that seeks to ensure a minimum level of safety and well being for all children in society. Billions of dollars are spent in the effort at both state and Federal levels.

How the child welfare system evolved to its present state as a child protective services agency is an interesting history. During the first half of the 20th century child welfare was concerned primarily with providing financial assistance to impoverished families. However, beginning in the early '60s, as a result of a few highly publicized cases of child abuse, states began passing mandatory child abuse reporting laws that resulted in a meteoric rise in child abuse reports across the United States. In 1962, there had been only about 10,000 child abuse reports. By 1976, child abuse reports had risen to more than 669,000, and by 1978 to 836,000.

By 1992, almost three million reports of child abuse were filed nationwide, including 1,261 child-abuse-related fatalities. If current trends continue, it is projected that more than four million children will be reported for abuse annually by the year 2000 (Lindsey, in press).

In the last 30 years, the result of this reporting has been that child welfare agencies have shifted from providing services to needy children and families to investigating and intervening in child abuse reports. For every child abuse report

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received, a child welfare agency worker is sent to investigate. The investigation might take 1 week, 2 weeks, 1 month, or longer, before sufficient data is collected that will permit a decision on what action should be taken.

As the number of reports has escalated, the need for more investigators has increased. Unfortunately, at the same time, the mood in society and government has been turning increasingly skeptical toward social programs. Throughout the ‘80s and ‘90s, expenditures for social services have been cut. Paradoxically, while the public continues to demand greater efforts to curb child abuse, it is increasingly unwilling to fund those efforts. Thus, child welfare has to confront a steadily growing problem with diminishing resources. The result has been a continual narrowing of focus regarding who should receive child welfare services.

Today, child welfare in California, as elsewhere in the United States, has been transformed into a child protection system. Children enter into it only when they are reported for abuse or neglect (with the exception of voluntary adoptions). In California, most of the children reported (over 93%) receive little more than an investigation of the abuse allegation. When a service is provided, it is usually in the form of foster care placement. In the meantime, the growing number of abuse reports and of children entering foster care and the increasing numbers of children living in poverty suggest that rather than getting better, conditions for children are worsening. In an often frantic attempt to handle the burden of child abuse reports, many agencies have developed screening systems which allow them to focus on the most pressing cases. Unfortunately, once a child comes to the attention of child protective services, it is often

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not certain that the agency has the knowledge, technology, or skills to provide adequate protection for the child.

Given this brief sketch of the current child welfare system (which mandates the investigation and processing of a multitude of cases in a resource-poor environment), it is clear that it generates an overwhelming amount of paperwork. For each report of abuse or neglect, a file is created by a caseworker detailing the allegations and describing the child and family. This file will eventually include an ever-growing mountain of facts, details, opinions, testimony, and judgments, all of which will be appended at regular intervals over the next several years, while the child moves through the bureaucratic and legal system. File cabinets become the repositories of a huge collection of static information collected mostly to provide documentation in the event it is required. For large urban areas like Los Angeles, New York, or Chicago, the amount of information collected on bureaucratic forms is indeed remarkable, and the management and retrieval of information and documentation itself becomes an important system task. The information collected on paper forms often contains timely and critical data that is lost in static storage. The limitations of paper records become obvious. A stationary paper file cannot easily or efficiently track an abused child and his or her family as their case moves through the public child welfare system.

While the quantity of paperwork may not be difficult to imagine, it is difficult to understand why the child welfare system, which is charged with acting swiftly to safeguard children, has been one of the last government institutions to utilize personal computers to aid its mission. Since the creation of the personal computer, we have seen

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how computer technology has steadily revolutionized information storage, transfer, manipulation, and retrieval. Today, throughout industry and government, one or two workers operating a PC are able to perform in a few minutes routine data storage and retrieval tasks that previously (i.e., throughout all of human history) would have taken a battalion of people weeks, months, or even years to accomplish.

How many human-hours are wasted, or how many lives of families and children are disrupted due to the inability of child welfare caseworkers to efficiently process the mountain of paper with which they are confronted? This does not include: lawyers, judges, psychologists, police, and medical workers, all of whose performance would benefit if they could quickly and easily access information vital to a particular case. Computerization of child welfare records in a modern record storage and retrieval system has the potential for accomplishing this aim. Moreover, computerization of child welfare records would open vast amounts of data to scientific scrutiny, which might reveal subtleties of pattern that could pinpoint causative factors of intractable problems, thereby affecting not only social policy, but the lives of millions of people. It is this hope that motivated the development of the Child Welfare Services/Case Management System, the subject of this study.

On both federal and local levels, the benefits of computerizing child protective services has been recognized and progress is slowly being made toward a unified national child welfare database. Automated child welfare information systems have been included in federal legislation establishing criteria for new data collection that dates back to the Child Abuse Prevention and Treatment Act and Adoption Reform Act

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of 1978. Over the years, legislation emphasizing the need for uniform, national information systems regarding children in the public child welfare system has been passed. The 1986 amendments to Title IV-E of the Social Security Act mandated the development of a nationwide database (the Adoption and Foster Care Analysis and Reporting System [AFCARS]). The Omnibus Budget Reconciliation Act of 1993 made funding available for the planning, design, development, and installation of statewide, automated child welfare information systems that can then feed the national database.

In California, the Child Welfare Services Case Management System (CWS/CMS) was mandated by Chapter 1294, Statutes of 1989, SB370 as a system to computerize public child welfare services. Subsequent to the issuance of a Request for Proposal (RFP), the contract for developing the system was awarded to IBM Global. According to the State's CWS/CMS website (California State Department of Social Services, n.d.) the purposes of the system are to make "better case management services" and to provide "comprehensive and current information" to both frontline workers and program administrators. For the first time the child welfare systems of all of California's 58 counties are to be linked in one statewide system. Reportedly, the CWS/CMS involves the largest number of people and computer terminals ever involved in a single computer project. Installation of equipment began in 1995.

For caseworkers, the specific goals of CWS/CMS are (SB370, Sec. 20): "Providing child welfare workers with immediate access to child and family-specific information in order to make appropriate and timely decisions in child abuse and neglect

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cases," and "Providing child welfare services workers and supervisors with the case management information needed to effectively and efficiently manage caseloads."

Computer systems in child welfare are expected to "facilitate caseworker decisions by providing caseworkers with immediate access to case file information and reducing the time spent by workers searching for case information" (Statewide Automated Child Welfare Information Systems, 1993, p. 67940). Thus, the key to the ultimate effectiveness of the new computerized system is the way that the increased flow of information is expected to lead to "appropriate and timely decisions." CWS/CMS is designed to collect, store, combine, report, and make available to users information about public child welfare clients, services, and processes. The information system is expected to improve the flow of communication horizontally and vertically within the agency and within the larger child welfare system. The purpose of the new computer system is to achieve greater efficiency and effectiveness in attaining the goals and objectives of the child protective services system. Ultimately, the goals of public child welfare are achieved through the daily practices of child welfare case managers.

"The CWS/CMS is a state-of-the-art, PC-based, Windows application." As of May 1999, there were 16,000 active system users, and over 150,000 active cases (California State Department of Social Services, n.d.). CWS/CMS has attracted broad support and has been seen throughout the child welfare profession as a welcome development that will use technology to solve the problems of families reported for child abuse and neglect. Los Angeles County, with one of the largest child welfare services in the country, is in the process of bringing 5000 staff online.

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The CWS/CMS Control Panel (the first stop for system users) contains access to each of the system elements. In addition to four icons providing access to system information and to interfaces with other county data systems, there are four applications. The Fingerprint application provides a check for fingerprints on individuals working in foster care, but has not been used, and is scheduled for removal from the system this year. The Caseload application, the primary interface between caseworkers and supervisors, is used by supervisors to review requests for approval of court reports and by workers and supervisors to review caseloads. The Resource Management application contains lists of organizations providing services needed by clients—an electronic resource manual. This application allows administrators to manage system information and internal organization information in addition to external resources.

Client Services, the application most relevant to caseworkers, is the computer application that replaces the old paper casework files and represents the computer activity being studied in this project. Though the other applications and the links to other databases are all of assistance in casework decisions, caseworkers spend most of their time in Client Services. This application is divided into two folders (Case Folder and Referral Folder) each of which is divided into five sections. The Case Folder includes Case Management, where the case plans are documented; Client Management, where pertinent case information pertaining to medical, educational, and other needs is recorded; Court Management, where court reports are generated and data on hearings and other judicial procedures is recorded; Placement Management, where caseworkers record and track placements, and complete budgets for foster care placements; and

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Service Management, where information is recorded about contacts, visits, and services to clients and collaterals. In the Referral Folder, Referral Management, where data recording the original referral allegations are kept, replaces the Case Management section. The other four sections are the same. (Formal documents describing the CWS/CMS system are not readily available, as the system and the training needs are rapidly evolving. This description is from training documents provided by the Training Division of DCFS, and from conversations with staff of that Division.)

Though the stated purpose of the CWS/CMS is to help caseworkers to make "appropriate and timely decisions in child abuse and neglect cases," commentators with Los Angeles County of Department of Children and Family Services have repeatedly stressed that the implementation of CWS/CMS is to have no effect on the nature of decisions made by caseworkers. The extensive legislative and regulatory structure surrounding decisions about the fate of children and their families is untouched by the manner in which relevant information is collected and processed. However, while it is true that the essential elements of client contact and case decision-making remain untouched by this transition, all of the auxiliary activities surrounding core client work have been drastically altered by computerization—activities which account for much of the caseworker's time and energy. Though decisions should remain the same, the ways in which information is collected, stored, analyzed, and used is changing greatly. It is important to emphasize how major a change in conducting casework activity it is to convert from paper files to the computer.

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The current study reviews some of the consequences of this promising computerization program for child welfare caseworkers. It examines the impact of the CWS/CMS on child welfare case management practices in the Los Angeles County Department of Children and Family Services (LAC DCFS) and the San Francisco City and County Department of Human Services (SF DHS). The objective has been to measure the extent to which computerization has affected specific casework practices and to identify other factors that have influenced computerization. With this study, we contribute to the understanding of how the implementation of systemwide computerized documentation affects the decisions and practices of frontline workers.

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MODULE II

LITERATURE REVIEW

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MODULE II
LITERATURE REVIEW

This study examines the effects of computerization on the specific ways in which child welfare workers do their job. While studies were found in the literature of management, social psychology, social welfare, and related areas that examine the various aspects and correlates of job satisfaction (Bergmann, Grahn, Hannaford, & Wenner, 1996; Freisen, Holdaway, & Rice, 1983; Fryer, Poland, Bross, & Krugman, 1988; Holdaway, 1978; Jorde-Bloom, 1988; Knoop, 1995; Lee & Wilbur, 1985; Weitzel, Pinto, Dawis, & Jury, 1973; Winefield & Barlow, 1995), profiles of social workers in public child welfare (Fryer et aI., Vinokur-Kaplan & Hartman, 1986), adaptation to change (Ferguson & Cheyne, 1995; Sagie, Elizur, & Greenbaum, 1985; Siegall & McDonald, 1995; Staufer, 1992) and adaptation to technological change in work areas including public child welfare (Burkhardt, 1994; Cahill & Feldman, 1993; Edwards & Reid, 1989; Gattiker, gutek, & Berger, 1988; Mandell, 1989; Monnickendam & Eaglestein, 1993; Norman & Singh, 1989; Prasad & Prasad, 1994; Tovey, Savicki, & White, 1990), no studies were found that directly address the effects of computerized documentation on the actual practice of frontline, public child welfare workers. In other words, we do not know the effects that computerization has on such work-related practices as CSWs' usage of time during the week or reliance on various sources of information for making case-related decisions.

Most of the research on computerization in human service organizations, such as child welfare agencies, refers to the use of computer expert systems designed to help in

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case-related decision-making (Doueck, English, DePanfilis, & Moote, G., 1993; Fluke & O'Beirne, 1990; Schoech & Schkade, 1980; Schuerman, Mullen, Stranger, & Johnson, 1989; Schuerman & Vogel, 1986; Wick & Schoech, 1988). However, since the practical and ethical issues surrounding the use of computer expert systems differ from those associated with computerized management information systems information, we discuss only studies involving the latter technological change here.

The following literature review provides a sense of what is currently known about the impact of new technology on workers, including the important individual and organizational factors that influence this process of change. By technological change, we are referring to the introduction of new equipment (hardware, software, etc.) that necessitates employees learning how to operate new equipment and how to integrate it into their ongoing work routine. While organizational change manifests itself differently in wide-ranging types of agencies and with respect to specific technologies, our concern here is with the process of change as it is reflected in actual work practices, as well as how it is manifested psychologically and socially among employees.

Case studies that follow the process and outcome of substantial organizational change provide insight about the factors which influence the incorporation or resistance to job-related technological change. Considering the cost and investment involved in creating organizational change, especially technological change, we find it important to understand individual characteristics that tend to affect the change process and its success. Indeed, although technological change impacts both the organization as a whole as well as the individuals that comprise it, the unit of analysis for our discussion is

limited to individuals and the ways in which they react to change. Ultimately the outcome of change in the workplace hinges on the "behavioral choices made by many people in the organization…choices about effort levels, learning, use and so forth" (Parsons, Liden, O'Conner, & Nagao, 1991, p. 1332).

After describing the difficulties of implementing change in human service organizations, we examine a number of studies that have directly addressed the ways in which workers have responded to the introduction of new technological systems to the workplace. We then consider important factors which are expected to mediate the ways in which new technology affects workers, including demographic characteristics, attitudes toward computers, proficiency in computers, and attitudes toward the agency (especially issues of implementation). Finally, we consider what little is known concerning the effects of computerization on the daily practices of child welfare workers. The literature on organizational change in general is vast. In this review, we have focused our attention on human service organizations, and where possible, on child welfare agencies, while drawing empirical studies and concepts which seem particularly relevant to this study from the general literature.

TECHNOLOGICAL CHANGE IN HUMAN SERVICE ORGANIZATIONS

As this study is focused upon the impact of computerization on the work of caseworkers in public child welfare agencies, the organizational setting for the technological change falls under the classification of human service organization (HSO). While the dynamics of such change in human service organizations may be similar to the dynamics within other types of organizations, there are features unique to HSOs

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that warrant attention. In HSOs the change process may be more difficult because HSOs are known to be highly dependent on their external environment for legitimacy and resources, which makes them more vulnerable and reactive to external, environmental pressures (Hasenfeld, 1983).

This organizational vulnerability is an important consideration with respect to the process of technological change in HSOs, especially the implementation of computerized systems that aim to enhance agency staff accountability. Such systems are often externally imposed by funding or oversight bodies. In this context, the HSO may face greater challenges in the introduction of change because in contrast to the business sector where there is usually a well-defined hierarchical structure, the authority and power in HSOs tend to be dispersed informally and formally among direct service personnel, managerial personnel, and policy makers. Consequently, the HSO's organizational leadership promulgating the technological change may not be as effective in incorporating, motivating, or supervising the process of technological change. The process of implementing technological change may have strong political, moral, and economic overtones that impact workers' receptivity and adjustment.

Furthermore, because the goods produced in HSOs involve highly individualized, idiosyncratic, and abstract services or evaluations that are difficult to quantify and concretize while retaining the essence of the transaction, there may be even more difficulty in making the transition to uniform computerized reporting. HSOs tend to be particularly resistant to change because the human and professional factor is dominant within them and "professionals tend to demand autonomy and expect authority in the

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making of decisions and the formulation and implementation of strategy" (Bargal & Schmid, 1992, pp. 5-6). As such, in many organizations technological or procedural change may be accompanied by staff resistance, anxiety, and active attempts to maintain the autonomy and discretion of the workers. Whereas proponents of incorporation of technology in HSOs argue that it enhances program effectiveness and accountability, "opponents argue that computerization reinforces the worst, most punitive aspects of bureaucracy for workers and clients and trivializes professional practice" (Grasso & Epstein, 1993, pp. 373-374).

Aside from issues of perceived power (Mandell, 1989), staff resistance in HSOs has also been associated with moral and ethical considerations because the process of computerization involves epistemological and ontological assumptions that reach far beyond their practical attributes (Christensen, 1986; Murphy & Pardeck, 1989). The use of computers involves a "technological ethic" which abstracts—through a process hidden to the user—information from the social, moral, and cultural context in which the information naturally provides meaning to both the client and the caseworker (Murphy & Pardeck). These social impacts may lead to feelings of alienation when communication is largely automated. In addition, some have voiced concerns that computerization creates changes in work practices that necessitate measures to protect the autonomy of workers, the privacy of information, and the cultural relevance of the information transmitted (Behar, 1993).

Indeed, organizational change in human services in general, and child welfare agencies in particular, is considered to be difficult. Several authors have referred to

child welfare agencies as "monolithic bureaucracies" which are typically resistant to change because of the complexity associated with top-down, mandated change efforts in large HSOs, as well as with the effectiveness of interorganizational relations which mediate the ability to change (Cohen & Austin, 1994). Such considerations, as well as the sunk costs of implementing new technology, may have generally hindered the widespread computerization of HSOs, and may also account for the relative lack of empirical studies examining the process of technological change within such agencies (Bargal & Schmid, 1992).

WORKERS' RESPONSES TO COMPUTER SYSTEMS

We begin our discussion of the empirical literature on the effects of new technologies on workers by describing five major studies (Edwards & Reid, 1989; Mandell, 1989; Modai, Walevski, Mordechai, Rabinowitz, & Munitz, 1991; Monnickendam & Eaglestein, 1993; Parsons et al., 1991) that have generally looked at workers' reactions to new technologies, with an emphasis on HSOs. Parsons et al. studied the reactions of 105 employees to the arrival of new office automation equipment in an insurance trade association over an 18-month period. Questionnaires were administered to employees in three waves, 6 months apart, with the first wave of data collection soon after the set-up of the new system. The primary outcomes studied included the impact of the equipment on work, usage frequency and usage breadth, and the existence of psychological stress and withdrawal symptoms. Respondents' usage amount, usage breadth, and work impact with respect to the office automation equipment were initially significantly negatively associated with both skill deficiency and

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equipment inconvenience and positively associated with equipment satisfaction. Also, it was found that one's past experience with automation was related to a greater satisfaction with the training as well as with greater utilization of the equipment. In the final evaluation, equipment satisfaction and equipment inconvenience continued to be significant predictors of technology usage, but by the third wave, skill deficiency ceased to be a significant predictor of work impact. In other words, as workers gained more experience and skill in utilizing the office technology, their ability to utilize the machines ceased to be an important factor in understanding their adjustment to the technology. Interestingly, usage amount was negatively associated with involvement; the authors suggested that those employees who had the most input in decision-making and planning are most likely higher-level employees who utilize the office automation less frequently than lower-level workers.

In terms of psychological outcomes, stress was negatively associated with satisfaction with agency decision-making, and withdrawal was positively associated with initial training dissatisfaction. Respondents' experiences with technology as well as their organizational level were positively associated with satisfaction levels with initial training as well as with the agency's decision making regarding the changes. In turn, decision satisfaction at Wave II was negatively related to reported stress at Wave III (Parsons et aI., 1991).

Edwards & Reid (1989) studied the way in which direct-line workers in 57 local child welfare agencies in the state of New York experienced and evaluated a structured case recording system (UCR) 1 year after it was widely introduced. The focus was on

the perceived utility of the UCR for providing services to children and families and the extent to which these evaluations varied according to factors such as job position and caseload size. Overall, line workers perceived little payoff from the new system: 63% gave the UCR a rating of poor, 29% felt it was fair, and only 8% found it to be good. Not surprisingly, there were certain aspects of the UCR that were viewed more positively than others. The functions that were rated as most positive involved assessment and review of child and family progress, whereas the functions with the lowest approval ratings concerned the UCR's control over services and the effect of UCR on the worker/client relationship—the ability to develop a helping relationship with clients and the time spent with them. On open-ended questions, the most frequent types of evaluations included repetitiousness, redundancy, fragmentation, management orientation, constraints on recording, and lack of integration with other information systems. Some workers indicated that they were forced to cope with incompatible or irrelevant features of UCR by recording distorted or unsubstantiated information.

Generally, the most important factors predictive of workers' positive or negative perceptions of the UCR were the amount of time spent on paperwork, time spent filling out UCR forms, and time spent on direct services. Ironically, reported decreases in direct service time, noted as a disadvantage of the system, predicted a more favorable attitude toward the UCR. The authors offered the following explanation for this: "…mounting paperwork requirements, with little or no relief in hours spent on direct services perhaps produced the most negative perception of UCR" (Edwards & Reid, 1989, p. 50). Thus, despite a general sense that the transition to the UCR has a

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negative effect on the client/worker relationship, the workers that were able to somehow compensate for more time spent on the computer with less time spent in direct services, had better perceptions of the system. Interestingly, size of caseload was not associated with the perception of UCR, perhaps because it is not as good a measure of work-related pressures as time spent on paperwork and direct services (Edwards & Reid).

Monnickendam & Eaglestein (1993) also sought to uncover what actually goes on in the field upon the introduction of computerization into a human service organization. Their post-intervention study of social workers in an Israeli municipal social service agency, examined the factors that affect computer acceptance and use. The survey was conducted 2 months after the introduction of a computerized case management system and it covered both expectations of computerization and evaluation of the existing system. It was found that the following indices (in order of significance) were important: the ease and satisfaction with routine implementation process, the intrinsic belief in the ability of the social service agency to adequately implement the computerization process, the extent to which the workers themselves felt involved in the process, and finally the feeling that the process was well planned out. The social workers felt that the computer did not have an impact on professional discretion, improvement in client therapy, level of change in therapeutic atmosphere, and danger to client treatment. Also, anxiety about computers and factors involving professionalism, ethics, or even a sense that there is a need to computerize were found to be unrelated to workers' receptivity.

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Mandell (1989) focused his study on the perceptions of social service workers regarding changes to the interpersonal structure of power in a department of social services following the introduction of computerization. The author operationalized the concept of power as including such factors as perceived control over one's work, supervision, organizational monitoring of worker's caseload and performance, and the increased value of a worker's status when a worker has good computing skills. In terms of attitudes about the effects of computerization on power relations, the author found a solid rejection of the idea that computerization had reduced the social workers' control over their work. In other words, the workers did not feel that computers were a threat to their personal control or authority, nor was there anxiety that computers would threaten jobs or positions. However, many respondents also believed that their organization placed too much emphasis on the power of the computer, and that computerization allowed for greater control over their work as well as centralization of power. In terms of the social workers' beliefs regarding the association between computerization and evaluation of their personal performance, while the majority of respondents believed that decisions about their performance would be based on the computerized data, most did not believe that their work could be accurately judged via computerized data. Overall, the implications of the data, according to Mandell, are that even when there are favorable attitudes toward computers in principle, resistance can become evident if the workers feel that the organization has greater power to monitor performance.

Modai et al. (1991) describe the introduction of a computerized case record system to an open ward of a psychiatric hospital in Israel in terms of the stages of

workers' responses. When computers replaced paperwork on the wards, anxiety and resistance were common for staff who needed to change their work style, learn to use word processing, and achieve skills in program operation while maintaining quality patient care. As in Mandell (1989), organizational monitoring was an important factor, as computerization was perceived as interfering with their status and their control over some work-related functions as they became subject to more monitoring. Four stages in workers' reaction to the computerization are noted: intrigue, anticipation/doubt, testing and mastery, and acceptance and understanding of the computer's benefits.

Overall, these studies demonstrate some of the complexity of how workers relate to the process of computerization in HSOs. Satisfaction with the computer system may change over time and is associated with the perceived quality of the functional features of the computer program and the extent to which it either enhances efficiency at work or adds to existing workloads. It is generally clear that worker acceptance of new technologies is embedded in their attitudes toward their agency, especially their views on the capacity of the agency to effectively implement the change. Including workers in the implementation decision-making process may be the best way for an agency to elicit positive views from workers. However, it is not clear whether certain factors generally assumed to be important to acceptance of new technologies are indeed associated with evaluation of technological changes, such as the perceived effect in client/worker relationship, the perceived level of management control via computerization, workers' level of computer literacy, ethical issues surrounding computerization of human service-

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oriented work, general attitudes about computers, and subjective fear of computers on the part of workers.

DEMOGRAPHIC CHARACTERISTICS

Individual characteristics such as ethnicity, gender, age, time on the job, and work experience need to be understood as they relate to anticipated reactions to the introduction of new computer systems. In particular, age-related characteristics are seen to be relevant because they reflect elements of personal experience that individual workers bring to the new technology. Because technological, especially computer, change is so rapid in our society, it is widely assumed that older workers are less knowledgeable about and less adapted to new technologies. Younger workers have grown up with computers in their homes and classrooms, and therefore are less likely to be intimidated by the introduction of computers on the job. Age also includes the degree of job tenure. The longer one has been at the current job, the more one is adapted to the older technology and the more one has developed particular attitudes toward the agency itself.

Sagie et al. (1985) conducted an experimental study with 60 high school subjects in part to investigate the effect of experience with a style of working on the participants' resistance to change in a simulated work environment where the participants are asked to assemble a product while varying the length of exposure time. They operationalized job experience in terms of the extent of repetition in performing certain work procedures (not job tenure). It was found that longer experience with manual procedures led to much more resistance on the part of individuals to adopt automated processes. These

findings may have implications for the adoption of technological work processes by workers who have longer prechange tenure.

Staufer (1992) studied the effects of employees' age on their coping with technological change. The assumption was that older employees would be at a disadvantage in terms of incorporating work-related technological change and have a more difficult time or a more negative attitude toward working with changed technology. Several possible disadvantages of old age were mentioned, including lack of educational experience or socialization with computers, age-related decline in certain functions such as vision or cognitive processing, and socio-cultural factors such as negative stereotyping or reaching a plateau in terms of career advancement. The study found that older employees could be divided into three groups depending on their view of computers as either a threat, a challenge, or as irrelevant. Employees perceiving computers as a challenge tended to favor computer-related activities. Employees perceiving the computer as a threat reacted passively and complained frequently about increasing time stresses and health-related troubles as results of the technological change. Employees who perceived computers to be irrelevant were quite satisfied with their work and hardly talked about any new coping. While this study cannot claim that employee age is or is not a factor that relates the success of technological change, it would seem that age alone would not capture the effect and that attitudes or perceptions need to be examined as well.

Rafaeli (1986), as described below, found that age, education, and tenure at work were not associated with either the amount of usage of a computer or attitude

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towards the computer. However, she did find gender differences, with women reporting greater usage of computers as well as more positive attitudes. In contrast, in Parsons et al. (1991), as a set, individual characteristics accounted for outcomes related to equipment usage and work impact, but not negative psychological variables. Age, gender, and organizational level were not found to be associated with a negative experience of technological change.

COMPUTER ATTITUDES AND PROFICIENCY

In part related to age and job tenure, attitudes towards computers, in particular fears about the effects of their use, is seen to be an important factor affecting acceptance of new computer systems by workers, as is the degree of proficiency that workers bring to the new system. Rafaeli (1986) reinforces the point that attitudes toward technology affect workers' reactions to technological change. This study examined the relationships between employees' attitudes toward working with computers and various employee-related factors, including level of job involvement, organizational commitment, and extent of usage of computers at work among 284 white-collar employees in manufacturing organizations. It was found that employees who made the most extensive use of computers on their job reported a more positive attitude toward working with computers. The author suggests "increased usage of technology on one's job is tantamount to commitment to using it and is likely to generate cognitive consistency dynamics" (p. 102). Moreover, in testing the effects of possible mediating variables, she discovered that age, education, and tenure at work were not associated with either the amount of usage of a computer or attitude towards the latter.

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However, she did find gender differences with women reporting greater usage of computers as well as more positive attitudes.

In addition, it was found that the extent of an employee's job involvement is positively correlated with positive attitudes (Rafaeli, 1986). It may be that computers increase employees' productivity or control over their work and this may create an increase in the level of job involvement. Alternatively, it may be that employees who were inclined to be more involved with their job in the first place were more inclined to attempt to use computers. The relationship between high commitment to the organization and positive attitudes was not statistically significant. However, the correlation between the commitment and negative expectations was found to be significant. Also, significant interactive effects were found. Job involvement moderates the relationship between use of computers and attitudes toward working with a computer: Among employees with a high level of job involvement the association between usage and attitudes is stronger than the association for their coworkers with a lower level of organizational commitment. Thus, although this study does not examine reactions to technological change, but rather attitudes towards already existing computers, it reinforces the importance of examining workers' attitudes toward the job and computers when studying the impact of technological change. Interestingly, though, Monnickendam & Eaglestein (1993) found subjective fear and anxiety regarding computers to be unrelated to the attitudes toward the actual computerization process in the agency and to the evaluation of the computer's usage in the social service agency.

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Traditionally social workers have been considered to be particularly resistant to the computerization of services (Cnaan, 1989; Roosenboom, 1995) because of the unique nature of work with human clients, the desired independence associated with professionalism, and the difficulties of implementing change within HSOs. Presumably, since computer use is associated with positive attitudes toward computers, computer proficiency has been low among social workers, compared with other professions. In 1989, Mandell found that the majority (90%) of the study sample reported that they were beginners in the use of computers, and expressed some ambivalence toward computers. On one hand, social workers felt that computers offer benefits to the social work profession, are appropriately used by professionals, and are highly reliable tools. On the other hand, a considerable number viewed computers as dehumanizing in nature and a threat to the provision of quality services. In a more recent study, however, Park (1998) found that computer use and literacy was very high among a group of social work students. In this sample, while 32% described themselves as beginners, over 90% reported consistent and routine use of computers.

The proliferation of computers throughout society, not excluding the social services, is proceeding so rapidly that published empirical literature can capture neither the degree of computer proficiency among current subjects, nor the extent of fears regarding computers. However, it seems clear that computer fears and computer use are inextricably linked—while computer fears may retard computer use, increased computer use, frequently mandated on the job, eventually will reduce the fear of

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computers. As noted above (Parsons et al., 1991), skill deficiency diminishes over time as a factor in worker acceptance of new computer systems.

ATTITUDES TOWARD THE AGENCY

One of the areas expected to impact workers' adjustment to the implementation of the CWS/CMS is the way in which individuals regard the organization as a whole. These attitudes include both workers' satisfaction with their jobs and conditions of work, their assessments of the capacity of the organization to effectively implement technological change, and perceptions of their power to function independently as professionals in the face of mandated change.

Ideology, Work Involvement, and Technological Change

As described above (Rafaeli, 1986), the extent of an employee's job involvement is positively correlated with positive attitudes toward computers. In another study, Siegall & McDonald (1995) focused on the effects of 205 telecommunication technicians' central life interests, organizational commitment, and job involvement as these impact employees' reactions to job-related change in job design and technology. This study offered support for the expectation that employees' focus of attention impacts how they react to job-related changes both attitudinally and behaviorally. It was found that technicians who focused highly on their jobs reported fewer excused absences and were more involved in their job as time passed after the technological change compared to respondents low in job focus. In fact, with time, workers who were highly focused on life outside of work reacted more strongly to change than those who were low in off-job focus; they became less committed, less involved in their jobs, less satisfied, and more

likely to leave. Interestingly, however, job focus was not significantly related to other behaviorally oriented measures (e.g., job performance, tardiness). In other words, one's job focus was associated only with other attitudinal measures and not observed in practice.

Another variable relevant to the study of workers' adaptation to technological change is the extent to which employees' expectations or belief systems are aligned with the ideology of the workplace as a whole regarding technological change. Along this line of inquiry, Prasad and Prasad (1994) conducted a qualitative study of technological change in a health maintenance organization and examined the extent that the institution's ideology of professionalization affected employees' reactions to the new computerization. The ideology of professionalism that sets the normative standards, prestige, and status related to any particular field was the focus of the study, for it is particularly relevant to the introduction of technology to an organizational environment. The study's general findings were that the ideology of professionalism promoted a greater acceptance of the computerization process, increased the commitment to the technology, and was partly responsible for the suppression of individual concerns regarding the demands or consequences of computerization. It was found that the computers "were a presence" in the organization long before they were actually implemented because the organization's members talked about and anticipated their arrival. Professionalization was viewed as synonymous with "real medical care" and computer technology was viewed as professional to the extent that it promotes the ability to provide that service. Also, it seemed that computerization also appeared to

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represent "expertise" in the sense of providing ready access to needed patient-related information. Before the advent of the computers, members felt compromised in terms of their professionalization when interacting with members of other organizations that were already computerized. Similarly, members attributed professionalizing attributes to the computer indicating that it is progressive, advanced, or modern.

The attribution of positive professional attributes to the computer was reflected in the way members dealt with the inevitable challenges that accompany technological change. In general, the 24 employees tended to minimize inconveniences or problems experienced with the computer, expressing the sentiment that these are a small price to pay relative to the benefits of advanced professionalization. For example, several months post implementation, when the workers realized that more information had not necessarily resulted in greater services to patients, the employees still maintained that computers transformed them into real professionals. In effect their ideology seemed to mitigate their irritation, disappointment, and concerns and this held up even when the system caused major problems on the job (Prasad & Prasad, 1994). Consequently, this study demonstrated the role that ideology can play in mediating employee acceptance in regards to technological change.

Job Satisfaction and Organizational Change

The extent to which an employee likes his or her job and finds fulfillment in it is expected to mediate the acceptability and overall evaluation of computerization. If one likes one's job and wants to keep it, one will more likely take a positive stance toward technological change and will attempt to master the new tasks so as to continue to

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experience satisfaction at work. In order to examine effects related to job satisfaction in the context of organizational change, Ferguson and Cheyne (1995) studied responses of 245 staff from various departments of a large British university following a substantial change to the structure of teaching. The results of this study are that organizational position and size of department were significantly associated with job satisfaction. Specifically, staff in academic positions and staff who came from smaller departments reported higher levels of job satisfaction. In addition, it was found that those who reported either feeling more anxious (experiencing a rise in caseload) and/or feeling that the organizational changes were forced upon them reported less job satisfaction. A negative relationship was found between employees' general attitudes toward change and job satisfaction, indicating that employees with a negative attitude about the change reported less job satisfaction. As other studies have demonstrated, those employees who were pleased with the level of their inclusion in the planning/implementation of the changes reported greater job satisfaction. Finally, a significant interaction effect was found between workload and organizational position, which indicated that for the academic staff, as workload increased, job satisfaction decreased, while for support staff, as their workload increased, their job satisfaction increased. The authors surmise that for support staff who are accustomed to dealing with administration, the organizational change may have resulted in a perception that the job is more interesting and satisfying. At any rate, these findings underscore the point that individuals with various roles may be impacted quite differently by technological change.

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In regards to technological change and worker satisfaction, Monnickendam & Eaglestein (1993) found that workers' satisfaction with a new computerized system was positively related to satisfaction with a number of job aspects including routine implementation processes within the agency, the ability of the social service agency to adequately implement the computerization process, the extent to which the workers themselves felt involved in the process, and the feeling that the change process was well planned out. The intrinsic belief in the ability of the agency to computerize was found to have an effect on computer acceptance, as was the commitment of top management to the process of change. Thus, in general it is expected that positive attitudes toward the job itself, and toward the effectiveness of the agency to implement change, will lead to greater acceptance of computerization. This may be a particular problem in public child welfare, where job satisfaction is not always high.

Job Satisfaction in Public Child Welfare

The field of child protective services has been notorious for high worker turnover and low worker satisfaction, although the results regarding job satisfaction are somewhat inconsistent. On one hand, some studies find the majority of workers to be satisfied with their work, although the number varies. In a sample of 60 NASW members practicing in child welfare, Jayaratne and Chess (1984) found as much as 84% of the workers to be *Very Satisfied* or *Somewhat Satisfied*. In a larger sample of 413 child welfare workers a smaller majority (66%) was *Very Satisfied* or *Quite Satisfied* (Vinokur-Kaplan, 1991). Using a small agency sample, Winefield and Barlow (1995) also identified little evidence for burnout, disillusionment, or dissatisfaction among child

protective workers. Workers were, in general, satisfied with the quality of the interpersonal relationships and supervision. However, the latter authors found an association between job dissatisfaction and higher caseloads.

On the other hand, Fryer et al. (1988), who studied the prevailing attitudes and attributes of county child protective workers, found a low sense of job satisfaction in general. Workers reported feeling overwhelmed by large caseloads and by the lack of consultative sources to the point of resignation with respect to inability to help the clients. Further, when compared with other human service workers, child welfare workers indicated a greater level of stress and the highest rate of intent to find a new job (45% compared to 39% for family service workers and 43% for community mental health workers; Jayaratne & Chess, 1984). Child welfare workers reported significantly worse scores on job dimensions such as role conflict, value conflict, physical comfort at work, and the sense of being challenged or given the opportunity for personal growth (Jayaratne & Chess). In terms of the factors which most contribute to job satisfaction among public child welfare workers, Vinokur-Kaplan (1991) found the important factors to be working conditions and salary as well as workers' sense of accomplishment with the work. Interestingly, this study found that only very small percentages of the workers reported that their job satisfaction is influenced by work with clients. Vinokur-Kaplan & Hartman (1986) provide more detailed information about the attributes of social workers and their job satisfaction. In relation to satisfaction with the work, social workers reported a large discrepancy between the way they actually utilize their time at work and the way they think they ought to be spending it. In general, the workers wished they

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could spend less time doing paperwork, meeting emergencies, general case management activities, and job-related travel and much more time working with children in their homes or in placement.

The individual demographic variables that are related to job satisfaction in general were investigated by Lee and Wilbur (1985), who conducted a multivariate analysis of age, education, job tenure, salary, job characteristics, and job satisfaction in a large sample of public government employees. This study found that total job satisfaction increases with age and that younger workers were less satisfied with the intrinsic characteristics of the work (e.g., task significance, autonomy, skill variety, feedback on the job). In contrast, Fryer et aI. (1988) found that workers with longer tenure in child protective services reported more dissatisfaction than did newer workers.

Implementation Issues

Authors in the field tend to agree that whereas the typical organization will spend most of its time on technological aspects of a computer application, one of the areas that needs the most attention is the adjustment of the people and the organization to the change (Cahill & Feldman, 1993; Carrillo, Kasser, & Moretto, 1985). Indeed, the manner in which staff understand why a revision is being made in their work operations and what needs the computer system is intended to meet is vitally important for the acceptability and implementation of the system (Streat, 1987). If the workers are supportive of the real purposes of the pending computerization changes, it is more likely that the system will be positively evaluated at posttest. For example, if the workers express the beliefs that the computer is intended primarily to serve as a policing device

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to make them more accountable for their time and services or is a quality control system that meets legal mandates which are irrelevant to their ongoing needs, it is expected that the evaluation of the computer system at posttest will not be favorable (Mutschler & Hasenfeld, 1986). However, if workers express the expectations that the changes are primarily intended to aid in their casework planning, to provide access to vital information, and to assist in the accountability of the workers to the clients, it is expected that the evaluation of a computer system will be more positive. Research that has been conducted on the integration of Management Information Systems (MIS) in HSOs have indicated that threats to individual autonomy, fear of change in relation to the power hierarchy of the organization, and fears of punitive responses to ratings of poor productivity on the part of the worker can result in negative implementation results (Carrillo et aI.). Monnickendam and Eaglestein (1993) found that the intrinsic belief in the ability of the agency to adequately implement the computerization process, the extent to which the workers themselves felt involved in the process, and the feeling that the process was well planned out contributed strongly to postimplementation satisfaction with the computer system. In Ferguson and Cheyne (1995), those employees who were pleased with the level of their inclusion in the planning and implementation of the changes reported greater job satisfaction. And Parsons et al. (1991) found that involvement in planning and decision making were important predictors of perceived skill deficiency, satisfaction with agency decisions, and general impact on work.

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Cahill and Feldman (1993) describe a computerization project in a New Jersey public child protective agency in terms of the importance of carefully managing the process of introduction of technological change. The project was intended as an intervention strategy to ameliorate some persistent sources of stress (reported by social workers as well as administrators), associated with a high volume of paperwork and low volume of direct services, as well as a poorly functioning existing computer system. The process of technological change was designed keeping in mind the resistance that is likely to be encountered by staff trying to maintain some control over their workload. The following resources were invested in this context: (a) preparation of staff via extensive meetings to explain the project and explore workers' concerns prior to the arrival of the new system, (b) voluntary usage of the computer (in part because the computers were in short supply and so only the most receptive staff were initially involved), (c) positive marketing of the first program in order to set a positive climate of receptivity to the project, and (d) to avoid alienating union and staff involvement, not using the new technology as a staff reduction strategy even when the cost of the equipment would have justified doing so. The authors note that only when the new software applications successfully met the needs for user friendliness and increased efficiency as well as earned support by the workers' union, did the agency decide to implement the new computer system on a statewide level. In other words, the agency management came to realize that *the real cost of computerization* includes not only software and hardware, but also the cost of education, collaboration, and support and that the process of change is at least as important as the specifics of the actual technology.

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SOCIAL INTERACTION AND TECHNOLOGICAL CHANGE

So far we have discussed workers' reactions to technological change and the factors that are expected to affect those reactions as worker reactions are certain to be directly related to the ways in which computers affect their work. We now turn to the consideration of the specific ways in which the new computer system's implementation is likely to change the reality of workers' daily work.

The effects of technological changes on the social interactions of employees are of interest. Often the shift to computerization in an agency creates a shift in focus from the individual as the fundamental unit in the workplace to the group as a whole with a renewed focus on work groups and teams (Herndon, 1997). In terms of the social effects of computerization in the workplace, there has been an academic debate over whether or not social communication is thwarted or made more accessible and democratic. Ferguson and Cheyne (1995) caution against generalizing findings from one study to the next, as does Mantovani (1994): "computer mediated communication is deeply situated, its social and technological contexts being always highly specific" (p. 46). Regardless of the specific context of the computerization change process and the specific parameters of the computerized communication, researchers generally expect that computerization is capable of altering interaction patterns as well as organizational relationships. Knowledge-based systems, in short, affect human communication quantitatively, qualitatively, and structurally.

Bradley, Holm, Steere, & Stromqvist (1993) studied the perceived effects of computerization upon interpersonal communication or interaction with coworkers in an

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electronics industry. They found that, in general, respondents believed the individual to be the main factor contributing to good communication, rather than the content of the information being communicated. When asked what the obstacles to personal contact were that existed at work, the stress and time pressures of work overload were considered the main causes. This in part contributed to the derived hypothesis of this exploratory inquiry that human/human interaction will decrease when expert systems are in use. Tovey et al. (1990), who described the process of new electronic networking within several nonprofit human service organizations in a local rural area, suggested that unintended social changes do occur as a result of technological implementation. They found that workers changed in interpersonal relations insofar as new social groupings and forms of social interaction were sometimes created based upon the new pathways of communication. Not surprisingly, there were different demands placed on one's time and attention (e.g., needing to learn new skills). Importantly, there were changes in how people made decisions. Whereas before electronic networking staff made decisions mostly through face-to-face contact with others, following the change decisions were sometimes made through the use of a computer, again suggesting that human-to-human interaction is likely to diminish after the introduction of computers. The authors stated that "the face to face meeting and decision process can never be eliminated, but it will be influenced and changed by telecommunication" (p. 26).

Another study reversed the causal direction between social interaction and computers by considering the effect of interpersonal relationships in the workplace on the adoption of technology. Burkhardt (1994) conducted a longitudinal study examining

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the ways by which alternative sources of social influence as well as interpersonal relationships at work impact the beliefs, attitudes, and behaviors in an organization following a technological change. The author surmised that social interaction would affect the frequency by which individuals used computers, their attitudes toward computers, and their sense of self-efficacy regarding their usage. The idea is that in terms of incorporating computerization into their everyday work, people would most likely do what others around them were doing. Attitudes toward computers, which were emphasized as a crucial aspect of successful human/computer relationship, were hypothesized to be a function of the individuals' own opinions or experience with computers as well as the expressed opinions of coworkers. Using network analysis techniques, this study found that as individuals changed their work operations, they depended on others in their immediate environment (especially structurally equivalent coworkers) to inform their own behaviors, attitudes, and beliefs. Interestingly, it was found that while attitudes and beliefs were more subject to social context effects, employees' frequency of utilization of the computer was more subject to job requirements, which have a greater role in determining how much workers will use the technology. "In fact, individuals use their organizational roles to help determine how they should act and what attitudes to adopt within a workplace" (Katz & Kahn 1976, cited by Burkhardt, p. 893).

CHILD WELFARE WORKERS' USE OF TIME

One way of describing the effects of computerization is to explore whether or not caseworkers are allocating their time for different work-related tasks in a way that differs

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from their allocation of time previous to the implementation of CWS/CMS. It is relevant to know, for example, if caseworkers rate themselves as spending more time in direct communication with clients or collaterals (either face-to-face or via phone) following the implementation of CWS/CMS. This would be one way of measuring an improvement in productivity and quality of work, because it can be assumed that the more time spent in direct communication, the more the caseworker is in a position to appraise the situation of clients, as well as create good working relationships with clients and significant others. Unfortunately, a literature search yielded no information on the actual percentage of time spent in various work activities that would serve to support our findings of baseline division of time by caseworkers.

Vinokur-Kaplan and Hartman (1986) examined the proportion of time allocated to various child welfare service areas by child welfare workers nationally, but did not examine the allocation of time among workers who specialize in one form of service (e.g., Family Maintenance & Reunification) with respect to concrete activities such as doing paperwork, spending time on the phone, home visitation with clients, or supervision. As mentioned above, however, they described dissatisfaction among workers regarding the allocation of time, with workers wishing to spend less time doing paperwork and much more time working with children in their homes or in placement.

Only one study was found to address the changes to allocation of time for various activities imposed by computerization. As mentioned above, Edwards & Reid (1989) studied the way in which directline workers in child welfare agencies in New York State experienced and evaluated a structured case recording system (UCR) 1 year after

it was widely introduced. The authors found that the UCR actually increased the amount of time social workers spent on case recording. Whereas workers estimated that they spent an average of 14 hours on paperwork before the introduction of UCR, after its implementation, the amount of time increased to 24 hours. This was accompanied by a decrease in actual time spent in direct client services from 24 to 15 hours per week. At the time of the evaluation, workers were spending almost 60% of their work week on case recording. Interestingly, the increase of 9 hours per week for paperwork nearly matched the number of hours that were spent on UCR and so the authors concluded, "apparently, the respondents viewed UCR as added onto rather than replacing existing recording requirements and procedures" (p. 50). This is a potentially worrisome finding in terms of the burden of technological change for caseworkers. Nevertheless, the study did not address how the system impacted usage of time spent in various other job-related activities.

UTILIZATION OF INFORMATION SOURCES AMONG CHILD WELFARE WORKERS

Another important way of understanding how computerized data systems such as CWS/CMS are integrated into work is to evaluate the extent to which caseworkers rely on the computer for accessing information pertinent to everyday tasks. If the computer is increasingly utilized in support of such activities as identifying and securing resources for clients, then it can be concluded that use of the computer is shifting the relative utility of various information sources for daily tasks. More specifically, if it is found that sources of information for caseworkers are utilized in decision making differently from the way they were utilized before CWS/CMS, then we can indirectly infer

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that the computer has had an impact on decision-making processes. A direct indicator of the usefulness of the CWS/CMS is its value in improving access to client-related information. One way of examining this is to measure the use of all of the sources of information used in decision making before and after the transition to CWS/CMS. Another is to evaluate changes in the frequency of problems related to insufficient or inadequate information passed on with newly transferred client cases. Indeed, one of the central aims of the CWS/CMS system is to reduce information gaps on transferred cases so as to ensure better continuity of client care.

Unfortunately, empirical data regarding the extent to which caseworkers use various sources of information in making case-related decisions was not found. Jones (1993) describes the types of information that caseworkers consider pertinent to decision making. In a critical review of the literature on decision making in child welfare, he noted the criteria that caseworkers use in making decisions regarding intake of new cases, decisions to substantiate abuse, decisions to remove a child from a home, and decisions to reunify a child with his or her family. The process of utilizing information in decision making by caseworkers is similar to the manner in which social scientists establish reliability and validity of data (e.g., repeated observations from multiple observers over time, etc.; Gilgun, 1988). Moreover, when respondents are not in agreement with a hypothesized case-related intervention, they tend to make fewer unwarranted assumptions concerning the case, generate more hypotheses, and request more information concerning the case. Also, child welfare professionals request more information concerning a case and less frequently make unwarranted assumptions than

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nonprofessionals (Mandel, Lehman, & Yuille, 1994). While such data are critical in understanding the nature of decision making and in developing common indicators or procedures for caseworkers, knowing the type of criteria is not helpful in understanding the relative importance of such criteria for caseworkers so that we know if the process of computerization changes the emphasis of information sources utilized or not.

CONCLUSION

As we have seen, most of the empirical literature on technological change in organizations focuses on the ways in which workers adapt to those changes. It is not surprising that the attributes of the new computer system itself are important considerations for workers, including the ways in which it affects the nature and, especially, the quantity of their work. There is nothing in the literature regarding the effect of ethnicity on response to technological change, and little on gender. Age-related attributes seem to be the most important factors which workers themselves bring to the technological change, but we have seen that it is actually both experience with computers and time on the job, rather than age itself, which are seen as important. And the effects of computer proficiency and computer anxiety, both age-related, though of importance initially, tend to diminish over time as workers develop proficiency, reduce anxiety, and adapt to technological change.

Perhaps the most important overall insight from the literature is that attitudes toward technological change and workers' consequent adaptations, are embedded in their attitudes toward the job and the workplace. For workers, the introduction of a new computer system is not an event that is separate from other ongoing struggles and

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projects within the organization. The way they adapt to a new computer system will be a continuation of existing ways in which agencies and workers adapt to each other. Job satisfaction, the nature of work involvement, organizational and professional ideologies, and especially views on the ability of the agency to successfully negotiate change all affect the ways in which workers adapt to change. It seems that involving workers in the planning and implementation of change may be the best way to maximize the positive effects of these factors. This may be particularly true in child welfare, given the problems with job satisfaction, the dominance of professional and ethical ideologies pertaining to information technology, and the often-bureaucratic nature of these agencies.

Less is known about the effects of computerization on the ways in which workers experience their jobs daily. Computerization may affect attitudes toward the agency, such as the feeling that the organization has increased its power over workers and its monitoring of work. The only empirical evidence that bears directly on the effects of computerization on the work of public child welfare suggests that it may increase documentation requirements and therefore workload as a whole. It is generally agreed that computerization has the potential to drastically alter workplace human interactions, but the empirical evidence is mixed on this subject. The best that can be said is that the social effects of computerization are unpredictable for specific situations and depend on the specifics of the technological change and of the existing social relations.

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MODULE III

METHOD

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MODULE III
METHOD

This research project is a study of the impact of the implementation of the Child Welfare Services/Case Management System (CWS/CMS) on child welfare case management practices. The study was conducted in the Los Angeles County Department of Children and Family Services (LAC DCFS) and the San Francisco City and County Department of Human Services (SF DHS) The objectives of the research are to specify the casework practices that are affected by computerization, to measure the extent to which these practices are affected by computerization, and to identify organizational and individual factors which influence the effect of computerization on these practices.

The research questions are:

1. What changes in casework practices occur as a result of the implementation of CWS/CMS and to what degree do these changes occur?
2. What individual demographic, attitudinal, and proficiency factors contribute to the effects of the implementation of CWS/CMS on casework practice?

The implementation of CWS/CMS provided a natural experiment for studying the effects of computerization on child welfare practices. An exploratory longitudinal one-group pre/post design was used. Aspects of caseworker practices were measured before and after implementation of CWS/CMS. Originally, 9 months after implementation was chosen as the ideal time for the postsurvey. Concerned about turnover among our subjects, this seemed the minimal amount of time to allow for caseworkers to change their practices in response to the demands of the computer. The unit of analysis is the

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individual caseworker, and primary data collection was through surveys administered to workers. In addition, a smaller number of caseworkers were directly observed as they went about their work during the weeks of the transition to the new computer system.

SAMPLE, DATA COLLECTION, AND RESPONSE RATES

Family Maintenance and Reunification (FM&R) workers were chosen as best for exploring the effects of the computer system because they are at the *middle* of the process through which children move through the child welfare system. While Emergency Response workers are more immediately impacted by CWS/CMS, the effects on FM&R workers would seem to be more typical of the system as a whole. Participation in the study was voluntary among CSWs. Each respondent signed a consent form and completed an identification form in order to be located for the posttest. The identification form was detached and stored separately from the completed questionnaires.

Presurvey

The presurvey was administered to all FM&R workers in San Francisco County during October 1997, just a week or two before workers went online, and to all FM&R workers in the last three Los Angeles Regions to go online (here referred to as Regions A, B, and C) from February through May of 1998. An overall response rate of approximately 48% was achieved. In San Francisco, the nonrespondents were mostly empty positions and new hires (of which there were many at that time). In Los Angeles, the response varied by Region, reflecting the relative cooperation of Regional administrative staff. The Regional Administrators of Regions A and B did not grant

permission for us to administer the surveys directly to the workers. Instead, we provided them with copies of the questionnaire, and Regional staff collected surveys from the caseworkers. This process resulted in a reasonable response rate in Region B, but not in Region A, where a poor response rate was achieved. In San Francisco and in Region C, researchers were able to directly ask individual workers to complete surveys, were able to follow up with these workers, and were able to answer any questions or concerns which the respondents had. For the most part, individual caseworkers, when approached directly by researchers, were willing to cooperate with the survey. Excluding Region A, the overall response was excellent.

The universe of available FM&R workers is difficult to determine at any one time, because positions are not always filled, and because the size of units varies somewhat. In calculating the response rate for Los Angeles, we used the method of counting the number of FM&R units in each Region, and assuming an average of seven workers per unit. Thus, the nonresponse includes vacant positions and new hires, as well as workers who did not respond.

Table 1
Response Rates

Location	Population	Responses	Response Rate
Presurvey			
Los Angeles Region A	98	12	12%
Los Angeles Region B	98	42	43%
Los Angeles Region C	147	101	69%
San Francisco	42	28	67%
Total	385	183	48%
Postsurvey			
Los Angeles	155	91	59%
San Francisco	28	21	75%
Total	183	112	61%

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Since analysis of the data indicates few differences among Regions on important outcomes of the study, we believe that the differential response rate across Regions has not had an effect on the overall outcomes for the county.

A comparison of our presample with the population of DCFS caseworkers shows that there are some important differences, as shown in Table 2. Aggregate data on DCFS social work staff was accessed through the Inter-University Consortium training data system. While there are not great differences by gender and ethnicity, the differences in age and time on the job are important. Our sample is younger and has been on the job for less time than the overall population of caseworkers. Thirty percent of the presample in Los Angeles were CSW Trainees at the time of the survey. Based on our direct experience in the field, we speculate that there are two reasons for this: (a) Veteran workers were more difficult to reach—they were more likely to be out of the office, and less likely to cooperate when located, and (b) Veteran workers may be less likely to be computer literate, and therefore more resistant both to the computer system, and to a survey regarding the computer system. Though there are differences between the sample and the population, analysis of the data shows that there are few differences on important outcomes by gender, age, ethnicity, or tenure on the job. Therefore we believe that the conclusions of this study are likely to apply to all FM&R workers.

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Table 2
Comparison of Study Sample with Population of DCFS Caseworkers

Characteristic	Study Sample (%)	DCFS Caseworkers (%)
Gender		
Female	80	74
Male	20	26
Ethnicity		
Hispanic	34	25
White	28	35
African American	21	29
Asian	14	10
Average age	35 years	41 years
Average time on job	2.80 years	3.34 years

Postsurvey

Postdata was collected in San Francisco County in July 1998, 9 months after the county went online with the new system. Turnover was low there, and the response was excellent. We collected postsurveys from 21 of the 28 workers who completed the presurvey.

Postdata was collected in Los Angeles in June and July of 1999. While the original design called for 9 months between pre- and posttests, delays in implementation (described below) led to the later postdata collection time. In Los Angeles, 59% of the presample completed postquestionnaires. Of the nonrespondents on the postsurvey in Los Angeles, there was no follow-up identification for eight, seven were on medical or pregnancy leave, four had transferred to non-FM&R positions, and 25 had left employment with DCFS. If we consider only those CSWs who were available at the time of the postsurvey, the response rate in Los Angeles was 81%.

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INSTRUMENT

The survey questionnaire developed for this project was based on both the literature regarding the use of computers in human services and on conclusions from a focus group with child welfare workers. Thus, it incorporates what current theory suggests are measures of the effects of computerization on work practices, as well as measures of individual demographic, work background, skills, and attitudes that presumptively mediate adaptation to technology, modified to fit the specifics of public child welfare case management practices.

There are over 200 items on the presurvey questionnaire, in 11 sections. The survey took about 20 minutes for respondents to complete. The presurvey instrument was tested with a group of nonstudy LAC DCFS workers, and revised as a result of this process. The workers completed the questionnaire then participated in a focus group concerning the instrument, its accuracy, and its completeness. The 11 sections are:

1. *Background and Demographics.* These items were developed by the researchers in consultation with DCFS focus group members and cross-referenced with related surveys of child welfare workers (Fryer et aI., 1988; Vinokur-Kaplan & Hartman, 1986).

2. *Type of Communication.* Developed by the researchers, the intent of these items is to divide total work time into the methods of communication used, including face-to-face, telephone, written, court reports, other documentation, and other tasks.

3. *Manner of Work.* Developed by the researchers, these items measure the type of contact with other people that occurs during work time—alone, or with coworkers, supervisors, clients, or others.

4. *Allocation of Time for Professional Activities.* This is a series of Likert scales separately rating the amount of time (from *No Time* to *Quite a Lot of Time*) spent on a number of casework activities. These items are taken and modified from a list of activities in a survey by Vinokur-Kaplan & Hartman (1986).

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5. *Information Sources Utilized in Support of Current Practice Activities.* Developed by the researchers in consultation with DCFS focus group members, these items measure the extent to which specific sources of information are used when making certain casework decisions.

6. *Transferred Cases.* Based on our own experiences, and on consultation with focus group members, researchers concluded that difficulties with transferred cases could be an important issue for caseworkers.

7. *Workplace Interactions.* The items in this section address the quantity and the quality of worker interactions both with supervisors and with coworkers. Ostroff (1993) was useful in the development of items regarding coworker relations. Choices for activities on which supervisors spend time were based on concepts discussed by Zunz (1995) and Bergmann et al. (1996), while the item addressing the quality of supervisory relations was influenced by the definition of supervisory relations in Jorde-Bloom (1988).

8. *Job and Workplace.* This section includes a series of Likert scales (*Strongly Disagree* to *Strongly Agree*) measuring beliefs about work with DCFS or DHS. Some of these items were developed by the researchers, but most of them are modifications of items from the following sources.

    From Zalesney, Farace, & Kurchner-Hawkins (1985, p. 588-9):
    - In general, I like working here.
    - As a CSW, I am very much personally involved in my work.
    - I do not care what happens to DCFS/DHS as long as I get my paycheck.
    - I feel that top management can be trusted.

    From Hackman and Oldham (1976, p. 257):
    - I believe my job has a substantial impact on the lives of other people.

    From Winefield & Barlow (1995, p. 901).
    - I feel emotionally drained by this job.
    - I have accomplished many worthwhile things on this job.

    From Cook & Wall (1980, p. 51):
    - As a CSW, I have a lot of opportunities to use my abilities and skills.
    - I am proud to represent DCFS/DHS.

    From Warr, Cook, & Wall (1979, p. 145):
    - I do not get enough recognition for the work I do.
    - I try to think of better ways of doing my job.

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From Bergmann et al. (1996, p. 156):

I have a good chance for advancement in my agency.
DCFS/DHS's plans are well carried out.
I think the way this organization puts policies into practice is fair.

From Aiken and Hage's (1968) Scale of Hierarchy of Authority:

There can be little action taken here until a supervisor approves a decision.
Persons wanting to make their own decisions would be quickly discouraged here.
Even small matters have to be referred to someone higher up for a final decision.
I have to ask my supervisor before I do almost anything.
Any decision I make has to have my supervisor's approval.

From Mowday, Steer, & Porter's (1979) definition of organizational commitment as cited in Jorde-Bloom (1988, p. 109):

I support the goals and values which DCFS/DHS upholds.

9. *CWS/CMS Expectations.* This section includes a series of Likert scales (*Strongly Disagree* to *Strongly Agree)* measuring beliefs about the CWS/CMS system. While a number of these items were developed by the researchers, others were developed from the following sources.

From Ferguson and Cheyne (1995, p. 103):

I expect CWS/CMS to change my job.

From Mandell (1989, pp. 36-38):

CWS/CMS will allow more monitoring of my work.
I am threatened by the thought of using CWS/CMS.
My performance will be judged more accurately with CWS/CMS.

From Sutton, Eller, & Schoech (1983, p. 12):

CWS/CMS will give me better information to work with.

From Gattiker et al. (1988, p. 332):

CWS/CMS will control my behavior at work.
Using the computer will make me more productive.
CWS/CMS will improve communication with others within DCFS/DHS.
CWS/CMS will make my job easier in the long run.

From Edwards and Reid (1989, p. 51):

CWS/CMS will save time on paperwork.

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10. *Your Computer Proficiency.* Based on a Computer Experience Survey used by DCFS prior to conducting computer training for caseworkers, or developed by the researchers, these items measure the degree of basic computer use and proficiency.

11. *Computerization in General.* This section consists of a series of Likert scales (*Strongly Disagree* to *Strongly Agree*) measuring beliefs about computerization. These items were developed from the following sources.

    From Sutton et al. (1983, p. 12):
    - Computers increase the flow of communication within an agency.
    - The type of information usually available through computer information systems is useful.
    - I think computer information systems are generally complex and difficult to understand.
    - Computer systems generally limit the flexibility that individual employees have within an organization.
    - Computer systems impose artificial precision and categorization in my profession.
    - Computers tend to dehumanize the work situation.
    - I have a positive attitude towards the use of computers in my profession.
    - The usage of computers will increase the employment opportunities in my profession.
    - Computerization in the workplace tends to hinder the development of friendships among employees.

    From Norman and Singh (1989, p. 185):
    - Computers help employees achieve their maximum potential.

    From Charns (1994):
    - The introduction of computers has the potential to change the whole social environment in an organization.

The presurvey questionnaire for Los Angeles is located in Appendix A. There are only minor differences in the San Francisco survey, reflecting local terminology. In addition, based on the initial experience with the San Francisco survey, a few items regarding computer proficiency were modified for the Los Angeles questionnaire.

The postsurvey version of the questionnaire was modified to suit the needs of postdata collection, and the Los Angeles version is found in Appendix B.

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- Demographic questions from the presurvey were dropped.
- A number of items on the attitude scales were amended to reflect the *post* time frame.
- The section on general attitudes toward computers was dropped because these items are used to predict posttest responses and are not measures of change.
- The postsurvey section targeting respondents' proficiency in using computers was expanded to include questions capturing level of proficiency in performing specific tasks on CWS/CMS. These items were developed using CWS/CMS manuals as well as with the assistance of DCFS supervisors and computer technical support staff with whom we conducted multiple phone interviews.
- Finally, items that ask workers to report their attitudes and assessments regarding specific features of the CWS/CMS system were added to the postquestionnaire.

DATA ANALYSIS

Univariate descriptive statistics are given for those variables that are not compared across data collection times. Some of these, such as demographic characteristics, are from the entire presample, and others, such as evaluation of the CWS/CMS system, are from the posttest data only. Principal axis factoring with varimax rotation was performed on each section comprised of Likert scales. This procedure yielded several components that were subsequently incorporated into scales and used in both univariate and multivariate analysis. Scales used on the pre- and postsample comparisons were derived from factor analysis of the same items on the entire presample. Variables (both scales and individual items that were expected to change) were compared with paired-samples t-tests. Hierarchical linear regression analysis was used to explore the ways that variables in the study account for the observed pre/post changes in CSWs' work practices and attitudes. Theoretically relevant variables were regressed on each of the pre/post differences that had been found to be significant

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using t-test procedures. Stepwise regression analysis enabled the identification of statistically significant predictors of change.

OBSERVATION DATA

Direct observations of FM&R workers were conducted in one of the study Regions beginning in April and lasting to the end of June of 1998. Five volunteer workers were followed by three researchers. One half-day per week was arbitrarily chosen for each worker, who was then followed while doing his or her job, including working in the office, attending interagency meetings, and making home visits with clients. Everything the workers did and said was written down, with an emphasis on time spent on tasks, information relied on for decisions, information given to clients and collaterals, and ways in which the information was recorded. Since this Region went online during this time, we were able to follow these workers as they adjusted their work to the demands of the CWS/CMS system.

These data contribute to the study by providing researchers with a direct hands-on experience of the process for workers to convert from paper to computer files, a sense of the political and organizational context in which caseworkers are making the transition, and a direct experience of the training and support provided by DCFS to workers during the transition. These data add a chronological dimension to the differences between pre- and postvariables, as we were able to directly observe the actual process of transition. Most important, they provide a rich and in-depth description of the meanings of the variables measured in the survey.

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IMPLEMENTATION OF CWS/CMS

The implementation of the computer system has been a monumental task in Los Angeles County, as elsewhere in the state. In Los Angeles, the system came online later than had been announced, and in a manner that was much more gradual than had been anticipated. Based on information from LAC DCFS, our original proposal and research plan anticipated that the CWS/CMS would go online in the three study regions near the beginning of 1998. The original plan was to collect predata between October and December of 1997, and postdata 9 months later. The three study Regions went online during the period from March to May 1998. (San Francisco went online at the end of October 1997.) We administered the presurvey in each Region about a month before it went online, and we planned to collect the postdata beginning in January of 1999.

In December of 1998 we undertook a small informal study to determine the extent to which the transition to CWS/CMS had actually occurred in Los Angeles County. We were concerned that if the *treatment* of our experiment was not fully applied, then we would fail to measure differences that might, in fact, occur in case management practices after a full implementation of CWS/CMS. We learned that while the original online dates for the Regions meant that the computer system and the necessary training and support was available to workers beginning on that date, it did not mean, as we had expected, that workers were required to abandon the old paper system as of that date. While many workers and supervisors conscientiously converted to the computer system as soon as it was available, many workers did not. Both the old paper system and the new computer case file system are in use simultaneously. In part because of actions by

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the union, there has been no compulsory transition (i.e., workers are not penalized for failure to convert to the CWS/CMS system). In addition, there is a feeling among workers that because the system is constantly being improved, it is better to convert later rather than sooner. The transition process was very decentralized, with primary impetus for conversion occurring at the unit level. Thus, the degree of transition to CWS/CMS varied enormously among units and workers. It was reported that younger, more educated, and more recently hired supervisors and workers are more likely to readily and quickly convert to CWS/CMS than more veteran workers and supervisors. For each worker, the conversion to CWS/CMS takes several major steps: (a) record case contacts under the Service Management application, (b) do case plans in the Case Management application, and (c) write court reports within the Court Management application. This last step is considered particularly difficult by workers, and is resisted even among workers who routinely record case contacts and case plans on the computer. At any point in the process, the old paper system remains accessible to workers. In January of 1999, we concluded that approximately two thirds of the caseworkers in our study Regions had made the transition to CWS/CMS to the point where they were completing court reports. It is less clear when they made this transition. While some of the workers immediately made the transition to CWS/CMS last spring, it appears that most of these workers completed the process close to the informal Department deadline of December 1998.

A DCFS study (Nayo & Breuer, 1999) obtained similar results. In one of the study Regions, in October 1998 (6 months after going online), 85% of all CSWs were

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recording case contacts, 61% were doing case plans, and 43% were doing court reports on the computer. One year after implementation, 98% were entering contacts, 75% were doing case plans, and 72% were doing court reports on the computer.

In order to maximize the successful measurement of the effects of the CWS/CMS system on caseworker practices, we postponed collection of postdata until the latest possible time, beginning in June of 1999. In addition, we added items to the postsurvey to measure the extent to which each worker has converted to the CWS/CMS system, enabling us to control for this variable. As described in Module IV: Findings, CWSs in the study had for the most part made the transition to the use of CWS/CMS.

LIMITATIONS OF THE STUDY

The current study has a number of sampling and design limitations that must be acknowledged for prudent interpretation of findings and which lead to characterizing the research as an exploratory descriptive analytic study of practice changes subsequent to the implementation of CWS/CMS. The study is non-experimental (i.e., there is no control group), so that in observations of change from Time 1 to Time 2, the possibility of causal agents other than the introduction of CWS/CMS cannot be ruled out. For a number of observed changes, the plausible explanation is indeed the effect of the computerization, yet the measured results may be due to organizational change in the interim, maturation of staff, or other unmeasured factors. An additional limitation of the design is that observations are made at only two points in time. Though we chose the best time for pre- and postdata collection, given the constraints of the implementation process, it is

not certain that observed changes will be greater or lesser 6 months or 1 year from now, when CWSs have more fully adapted to the new computer system.

Sampling issues need to be noted as limitations to the generalizability of the findings of this study to other populations. As regards Los Angeles County, there are variable response rates by Region, and certain regions were not sampled at all. While there is no apparent reason to impute a lack of generalizability to other Regions in Los Angeles DCFS, neither is there any reason to assume that there may not be systematic differences in implementation that might affect observed findings. The same is true for San Francisco. Furthermore, it is clear that the effects seen must be ascribed primarily to occur within the Family Maintenance and Reunification parts of the service system (i.e., not necessarily at the front or back end of the system).

The study has utilized newly designed measures for many of the constructs under scrutiny. Thus, despite efforts at finding items and measures from past research, and the pilot testing that was undertaken, the overall instrumentation as adapted for the current study relies primarily on face validity.

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MODULE IV

FINDINGS

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MODULE IV
FINDINGS

The findings section is divided into two main parts. In the first we systematically present all of the quantitative univariate descriptions and pre- and postcomparisons from the study. Some findings are derived from the 183 active cases in the predata set, and others from the 112 cases on whom there is postdata. Comparisons, of course, are based on the 112 cases for which we have both pre- and postdata. The predata set was used in the factor analyses to develop scaled items, which were then used for pre- and postcomparisons on some variables. Though there were many differences between the San Francisco and Los Angeles groups of caseworkers, there were no important differences between the two counties on important outcomes of the study. Therefore the results are presented from the two counties as one dataset.

First we present demographic characteristics by county on the predata set. Attitudes toward the job and the agency are presented as pre- and postcomparisons (N = 112), while attitudes toward computers in general and computer proficiency are limited to the predata set (N = 183). The use of CWS/CMS and the degree of proficiency in CWS/CMS at the time of the posttest, along with satisfaction with the system, is then described with changes in expectations regarding CWS/CMS compared before and after the implementation of the computer system. These sections are followed by pre- and postcomparisons on the variables that were expected to vary as a result of the implementation of CWS/CMS—the use of time, sources of information, problems in transferred cases, and workplace interactions.

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The second section presents data from the multivariate analyses. Hierarchical linear regression analysis was used to explore the ways that variables in the study account for the observed pre/post changes in CSWs' work practices and attitudes. Theoretically relevant variables were regressed on each of the pre/post differences that had been found to be significant using t-test procedures.

DESCRIPTIVES AND PRE/POST COMPARISONS

Demographics

As shown in Table 3, 80% of the sample is female; 22% is African American, 35% Hispanic, 29% Caucasian, 14% Asian, and 1% Native American. In terms of educational level, half of the sample has a BA, 18% has an MSW, and 29% has another Master's Degree.

Table 3
Frequencies and Percents of Demographic Characteristics by County
(N = 83)

Characteristic	Los Angeles	San Francisco	Total
Gender**			
Female	127 (82%)	19 (68%)	146 (80%)
Male	28 (18%)	9 (32%)	37 (20%)
Ethnicity*			
African American	31 (20%)	8 (30%)	39 (22%)
Hispanic	61 (40%)	2 (7%)	63 (35%)
Caucasian	42 (27%)	10 (37%)	52 (29%)
Native American	1 (1%)	1 (4%)	2 (1%)
Asian/Pacific Islander	19 (12%)	6 (22%)	25 (14%)
Academic degree*			
BA	93 (61%)	0	93 (51%)
MSW	13 (9%)	19 (68%)	32 (18%)
MA	45 (30%)	8 (29%)	53 (29%)
Doctorate	2 (1%)	1 (4%)	3 (2%)

* Chi-square significant at p<.05
** Chi-square significant at p<.10

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There are statistically significant differences between Los Angeles and San Francisco counties on each of these demographic variables. CSWs in San Francisco are more likely to be male (32% compared with 18%), and more likely to be Caucasian (37% compared with 27%) or Asian (22% compared with 12%). In particular, there were relatively fewer Hispanics in San Francisco (7% compared with 40% in Los Angeles). The most striking difference is in academic degree, reflecting different hiring practices in the two counties. San Francisco requires at least a Master's Degree for the job, not hiring those with BAs. And San Francisco makes an effort to hire MSWs (68% compared with only 9% of the sample in Los Angeles).

Table 4
Means and Standard Deviations of Demographic Characteristics by County
(N = 183)

Characteristic	Total	Los Angeles	San Francisco	F
Age in years	35.4 (10.1)	33.7 (9.1)	45.1 (9.8)	35.43*
Years working at agency	2.8 (4.1)	2.5 (3.6)	4.4 (6.1)	5.38*
Caseload size	33.7 (15.3)	35.6 (15.5)	23.0 (8.1)	17.6*

*significant at p<.05

As shown in Table 4, the mean age of CSWs is 35.4 years; mean years working at the agency is 2.8; and mean caseload size is 33.7. Again, there are statistically significant differences between the two counties on these characteristics. CSWs in San Francisco are older (mean 45.1 years compared with 33.7 for Los Angeles) and have been working at the agency longer (mean 4.4 years compared with 2.5). And caseloads are smaller in San Francisco (mean 23, with compared with 35.6 in Los Angeles).

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Attitudes Toward the Agency

These items measure CSW attitudes toward their job and the workplace in general. A factor analysis using the pretest sample of 183 CSWs was performed on this set of variables. Two factors were derived and used to construct scales related to CSWs' attitudes toward their job. Table 5 presents the results of this factor analysis.

Attitudes is comprised of six items that capture a satisfaction with the general purpose of the organization as well as with management's style and purpose. The items include: (a) I am proud to represent DCFS/DHS, (b) I support the goals and values which DCFS/DHS upholds, (c) I feel that top management can be trusted, (d) DCFS/DHS's plans are well carried out, (e) The way this organization puts policies into practice is fair, and (f) I believe management has client's best interests in mind when setting policies. A higher score on this scale reflects greater satisfaction. The scale has excellent internal reliability with a Cronbach's Alpha of .90.

Control is comprised of five items that capture CSWs' evaluation of the extent they have the authority to make independent decisions at work. The items include: (a) Little action can be taken here until a supervisor approves a decision, (b) Persons wanting to make their own decisions would be quickly discouraged, (c) Even small matters have to be referred to someone higher up for final decision, (d) I have to ask supervisor before I do almost anything, and (e) Any decision I make has to have my supervisor's approval. A higher score on this scale reflects a greater level of perceived control by the organization over one's work. The scale has very good internal consistency with a Cronbach's Alpha of .86.

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Table 5
Factor Loadings for Items Measuring Attitudes Towards the Agency
(N = 183)

Item	Attitudes ∝ = .90	Control ∝ =.86
I am proud to represent DCFS/DHS	**.569**	.001
I support the goals and values which DCFS/DHS upholds	**.653**	-.006
I feel that top management can be trusted	**.765**	-.110
DCFS/DHS's plans are well carried out	**.813**	-.008
The way this organization puts policies into practice is fair	**.864**	-.123
I believe management has client's best interests in mind	**.789**	-.009
Little action can be taken here until a supervisor approves it	-.004	**.686**
Persons wanting to make own decisions would be discouraged	-.205	**.614**
Even small matters have to be referred to someone higher up	-.142	**.756**
I have to ask supervisor before I do almost anything	-.002	**.883**
Any decision I make has to have my supervisor's approval	-.001	**.764**
I believe my job has a substantial impact on the lives of others	.305	-.141
In general, I like working here	.356	-.001
I feel emotionally drained by this job	-.303	.110
I have a lot of opportunities to use my abilities and skills	.422	-.151
I do not get enough recognition for the work I do	-.255	.160
I have accomplished many worthwhile things on this job	.132	.007
I have a good chance for advancement in my agency	.297	-.008
I am very much personally involved in my work	.005	.001
I do not care what happens to DCFS/DHS	-.003	.232
I easily put thoughts about work out of my mind	.009	-.003
I try to think of better ways to do my job	.118	.006

Table 6 contains the results of the comparisons between pre- and postsurveys on the items that measure attitudes toward the job and the workplace, including both the scales derived from the factor analysis and the individual items not included in the scales. The posttest sample of 112 was used for these comparisons, except for a number of items that were not included in the San Francisco postsurvey, which therefore have an N of 91. The differences between pre- and postscores are interesting. On one hand, CSWs like the job less after CWS/CMS (mean of 3.90 compared to 4.07 on the pretest), are more likely to agree that they do not get enough recognition (mean of 3.93

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compared to 3.62 on the pretest), and are more likely to agree that they do not care what happens to the agency itself (1.73 compared to 1.51 on the pretest). On the other hand, they feel a greater sense of accomplishment on the job (4.14 compared to 3.87 on the pretest). The scale of positive attitudes toward the agency did go down at the posttest, and the scale of control by the agency over one's work did go up, but these changes were not statistically significant.

Table 6
Means and Standard Deviations of Attitudes Toward Job and Agency
(N = 112)

Item***	Before		After		t score
I have positive **Attitudes** toward agency (scale)	2.97	(.86)	2.85	(.74)	1.657
DCFS/DHS has **Control** over my work (scale)	3.06	(.91)	3.15	(.86)	-1.076
My job has a substantial impact on the lives of others (N = 91)	4.54	(.70)	4.63	(.53)	-1.133
In general, I like working here	4.07	(.82)	3.90	(.91)	2.067*
I feel emotionally drained by this job (N = 91)	3.43	(1.14)	3.61	(1.17)	-1.598
I have a lot of opportunities to use my skills	3.81	(.96)	3.90	(.84)	-.944
I do not get enough recognition (N = 91)	3.62	(1.05)	3.93	(.94)	-2.978*
I have accomplished many worthwhile things on this job	3.87	(.70)	4.14	(.69)	-3.631*
I have a good chance of advancement	3.26	(1.15)	3.23	(1.11)	.370
I am very much personally involved in my work (N = 91)	3.77	(1.04)	3.70	(.94)	.800
I do not care what happens to DCFS (N = 91)	1.51	(.60)	1.73	(.84)	-2.287*
I easily put thoughts of work out of my mind at the end of the day	2.78	(1.14)	2.73	(1.28)	.467
I try to think of better ways to do my job (N = 91)	4.21	(.61)	4.19	(.65)	.341

* significant at p<.05
** significant at p<.10
*** on a 5-point scale from *Strongly Disagree* to *Strongly Agree*

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Pre-CWS/CMS Attitudes Toward Computers

The items in this section elicit information from CSWs about their general attitudes toward computers at the time of the presurvey only. A factor analysis was performed on this set of variables, resulting in the development of three scales. Table 7 presents the results of the factor analysis of items measuring attitudes toward the job and the agency.

Limits includes six items that capture the extent of respondents' unfavorable opinions regarding the use of computers at the agency. These items include: (a) I think computer information systems are generally complex and difficult to understand, (b) Computer systems generally limit the flexibility that individual employees have within an organization, (c) Computer systems impose artificial precision and categorization in my profession, (d) Computers tend to dehumanize the work situation, (e) Computerization in the workplace tends to hinder the development of friendships among employees, and (f) The introduction of computers has the potential to change the whole social environment in an organization. This scale has adequate internal consistency with a Cronbach's Alpha of .76.

Information is a scale comprised of two items that reflect CSWs' positive attitudes toward the general usefulness of computers at work. These items include: (a) Computers increase the flow of communication within an agency, and (b) The type of information usually available through computer information systems is useful. This scale has an acceptable internal consistency with a Cronbach's Alpha of .71.

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Benefits is a scale comprised of two items that relate specifically to CSWs' opinions regarding the benefits of computers for the profession. These items include: (a) Computers help employees achieve their maximum potential, and (b) The usage of computers will increase the employment opportunities in my profession. This scale has adequate internal consistency with a Cronbach's Alpha of .75.

Table 7
Factor Loadings for Items Measuring Attitudes Toward Computers
(N = 183)

Item	Limits ∝ = .76	Information ∝ = .71	Benefits ∝ = .75
I think computer information systems are generally complex and difficult to understand	**.440**	-.153	.005
Computer systems generally limit the flexibility that individual employees have within an organization	**.675**	-.231	-.177
Computer systems impose artificial precision and categorization in my profession	**.779**	-.009	-.250
Computers tend to dehumanize the work situation	**.563**	-.162	-.116
Computerization in the workplace tends to hinder the development of friendships among employees	**.584**	-.141	-.002
The introduction of computers has the potential to change the social environment in an organization	**.459**	.111	-.003
Computers increase flow of communication within an agency	-.006	**.742**	.252
The type of information usually available through computer information systems is useful	-.159	**.724**	.121
Computers help employees achieve their maximum potential	-.110	.149	**.915**
The usage of computers will increase the employment opportunities in my profession	-.007	.276	**.603**
I have a positive attitude towards the use of computers in my profession	-.289	.414	.307

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There are no pre- and postcomparisons on these items because these were not asked on the posttest. The mean score of Limits was 2.95 on a 5-point scale from *Strongly Disagree* to *Strongly Agree* (standard deviation [SD] = .64). The mean score of Information was 3.91 (SD = .64). The mean score of Benefits was 2.94 (SD = .64). The mean score on the only single item not included in the scales—I have a positive attitude toward the use of computers in my profession—was 3.88 (SD = .76).

Pre-CWS/CMS Computer Proficiency

The findings presented in Table 8 show that the CSWs in this sample were fairly proficient in computer use before the transition to CWS/CMS. Eighty-six percent were using the computer at least a few times a week. Typing was generally not a problem, with only 3% not typing at all, and only another 6% typing less than 10 words per minute. In Los Angeles 82% of the CSWs rated their computer skills as above beginner.

There are not major differences between San Francisco and Los Angeles counties on computer proficiency, though in San Francisco fewer CSWs reported using computers daily (48% compared with 73% in Los Angeles). At the time of predata collection, subjects in San Francisco had received much more training on CWS/CMS (mean of 23.5 hours, SD = 16.9) compared with Los Angeles (mean of 14.1 hours, SD = 16.8). Seventy-six of the CSWs in Los Angeles reported having received no training on CWS/CMS at the time of predata collection. However, after the transition to CWS/CMS—at the time of postdata collection—CSWs in Los Angeles reported a mean of 32.8 hours of training (SD = 19), with all CSWs having received at least 4 hours of training.

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Table 8
Frequencies and Percents of Computer Proficiency by County
(N = 183)

	Los Angeles	San Francisco	Total
How often do you use a computer at work*			
Never	9 (6%)	1 (4%)	10 (6%)
Once a month	5 (3%)	1 (4%)	6 (3%)
A few times a month	6 (4%)	3 (11%)	9 (5%)
A few times a week	22 (14%)	9 (33%)	31 (17%)
At least once a day	113 (73%)	13 (48%)	126 (69%)
How well can you type on the computer			
Nontypist	5 (3%)	1 (4%)	6 (3%)
Up to 10 wpm	9 (6%)	2 (7%)	11 (6%)
11-25 wpm	37 (24%)	6 (21%)	43 (24%)
Over 25 wpm	104 (67%)	19 (68%)	123 (67%)
Rate your computer skills (Los Angeles only, N = 155)			
No skills	4 (3%)		
Beginner	24 (16%)		
Beginner plus	22 (14%)		
Somewhat competent	69 (45%)		
Competent	36 (23%)		

* Chi-square significant at p<.05

Postimplementation CWS/CMS Use and Proficiency

As part of the postsurvey, CSW use of CWS/CMS for specific tasks was measured (see Table 9). For the most part, CSWs were using the system, though, as expected, this varied according to the specific task. While 99% were recording contacts with clients, 94% were doing case plans, and 86% were doing court reports, only 52% were using education notebooks. If CSWs were performing a task, they tended to rate their proficiency fairly high, with most means approaching 4 on a 5-point scale. The higher proficiency scores are associated with the tasks that are being performed by the

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most CSWs. Those who were recording contacts with clients had been doing so for a mean of 9.38 months, with a mean of 7.52 months for case plans, and a mean of 7.20 months for court reports.

Table 9
Frequencies and Percents of Having Done CWS/CMS Tasks, Means and Standard Deviations of Proficiency (If Having Done Tasks), and Means of Months Doing Tasks (If Having Done Tasks)
(N = 112)

CWS/CMS task	Have you done it? Yes	Have you done it? No	If so, rate your proficiency*	If so, how many months (LA only, N = 91)
Copy and paste MS Word documents	87 (80%)	22 (20%)	3.86 (1.18)	
Do case plans	103 (94%)	7 (6%)	3.63 (1.16)	7.52 (3.96)
Gather information for case plans	73 (68%)	34 (32%)	3.56 (1.00)	
Write court reports	95 (86%)	15 (14%)	4.00 (.93)	7.20 (4.19)
Record contacts with clients	109 (99%)	1 (1%)	4.33 (.99)	9.38 (4.04)
Record contacts with service providers	91 (85%)	16 (15%)	4.24 (1.05)	
Create or use client information notebooks	89 (81%)	21 (19%)	3.59 (1.06)	
Create or use education notebooks	56 (52%)	52 (48%)	3.69 (1.06)	

*On a 5-point scale from *Poor* to *Very Good*

We created a measure of overall CWS/CMS use by counting the number of positive responses on the eight CWS/CMS tasks for each case. This resulted in a Utilization variable with values from 0 to 8 reflecting the number of CWS/CMS tasks that each respondent had done. Table 10 shows the frequencies and percents of the values of the Utilization variable. Almost 90% of the sample had done at least five of the tasks,

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75.4% had done six or more, and 34% had done all eight. The mean number of tasks that had been done by respondents was 6.39 (SD = 1.61).

Table 10
Frequencies and Percents of Number of CWS/CMS Tasks Done
(N = 112)

Number of CWS/CMS tasks done	Frequency	Percent	Cumulative Percent
8	37	33.6	33.6
7	20	18.2	51.8
6	26	23.6	75.4
5	15	13.6	89.0
4	4	3.6	92.6
3	4	3.6	96.2
2	4	3.6	100
1	0		

Expectations About CWS/CMS

These items elicit information from CSWs about their expectations of CWS/CMS. A factor analysis was performed on this set of variables, using the 183 cases in the presample, resulting in the development of two scales. Table 11 presents the results of the factor analysis of items measuring expectations about CWS/CMS.

Contribution is comprised of six items that measure the extent of respondents' positive expectations of support offered by the new computer system. These items include: (a) CWS/CMS will give me better information to work with, (b) Using the computer will make me more productive, (c) CWS/CMS will improve communications with others within DCFS/DHS, (d) CWS/CMS will save time on paperwork, (e) CWS/CMS will benefit my clients, and (f) my performance will be judged more

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accurately with CWS/CMS. The internal consistency of this scale is very good with a Cronbach's Alpha of .85. (The Cronbach Alpha increases slightly to .87 with the inclusion of a seventh item—CWS/CMS will make my job easier in the long run—which we did not include in the scale because it was not asked in San Francisco.)

Interactions is comprised of four items reflecting respondents' beliefs that the new system will modify interactions with clients, supervisors, colleagues, and DCFS/DHS administration. Specifically, these items include the following: (a) CWS/CMS will change my interactions with my clients, (b) CWS/CMS will change my interactions with my supervisor, (c) CWS/CMS will change my interactions with my coworkers, and (d) CWS/CMS will change my interactions with DCFS/DHS administration/management. The internal consistency of this scale is very good with a Cronbach's Alpha of .85.

Table 11
Factor Loadings for Items Measuring Expectations About CWS/CMS
(N = 183)

Item	Contribution ∝ =.85	Interactions ∝ =.85
CWS/CMS will give me better information to work with	**.729**	-.005
Using the computer will make me more productive	**.694**	.007
CWS/CMS will improve communications with others	**.645**	-.001
CWS/CMS will save time on paperwork	**.741**	-.005
CWS/CMS will benefit my clients	**.753**	-.008
My performance will be judged more accurately	**.527**	.001
CWS/CMS will make my job easier in the long run*	.756	-.1 03
CWS/CMS will change my interactions with my clients	-.004	**.594**
CWS/CMS will change my interactions with my supervisor	.003	**.924**
CWS/CMS will change my interactions with administration	-.145	**.674**

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Table 11 (cont'd)
Factor Loadings for Items Measuring Expectations About CWS/CMS
(N = 183)

Item	Contribution α =.85	Interactions α =.85
CWS/CMS will change my interactions with my co-workers	.002	**.854**
I expect CWS/CMS to change my job	-.006	.204
CWS/CMS will allow more monitoring of my work	.171	.006
CWS/CMS will control my behavior at work	-.001	.339
I am threatened by the thought of using CWS/CMS	-.257	.001
I expect to be able to use CWS/CMS effectively	.407	-.003

* Not included in the scale because not asked in San Francisco

Table 12 shows the results of the comparisons between pre- and postsurvey scores on both scale and individual items measuring expectations of CWS/CMS. (At the postsurvey, the wording of these items was changed to reflect the fact that the system had already been implemented—principally this was a change in the tense of each item.) The posttest sample of 112 was used for these comparisons, except for a number of items that were not included in the San Francisco postsurvey, which therefore have an N of 91. The score on nearly every item was statistically significantly lower on the posttest. For example, the scaled variable *Contribution* went from a mean of 3.25 to 2.69, and the mean of the scaled variable *Interactions* decreased from 3.14 to 2.94. All but two of the individual items also decreased significantly from pre- to posttest. The degree of knowledge about CWS/CMS increased significantly from a mean of 2.69 on the pretest to 3.40 on the posttest.

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Table 12
Means and Standard Deviations of Expectations of CWS/CMS
(N = 112)

Item***	Before	After	t score
CWS/CMS will make (has made) a **Contribution** to my work	3.25 (.79)	2.69 (.80)	6.652*
CWS/CMS will change (has changed) my **Interactions** with others	3.14 (.82)	2.94 (.93)	2.141*
I expect CWS/CMS to change my job (CWS/CMS has changed my job)	4.12 (.77)	4.16 (.89)	-.364
CWS/CMS will allow (has allowed) more monitoring of my work	3.96 (.90)	3.51 (1.08)	3.606*
CWS/CMS will control (controls) my behavior	3.07 (1.03)	3.10 (1.19)	-.238
I am threatened by the thought of using CWS/CMS (N = 91)	2.31 (1.16)	2.04 (1.09)	1.771**
CWS/CMS will make my job easier in the long run (N = 91)	3.61 (.92)	3.34 (1.01)	2.113*
I expect to be able to use (I use) CWS/CMS effectively	3.79 (.81)	3.50 (1.12)	2.438*
CWS/CMS will make (makes) confidential information available	3.44 (1.02)	3.24 (1.04)	1.669**
I am well-informed about CWS/CMS (N = 91)	2.69 (1.02)	3.40 (1.01)	-5.304*

* significant at p<.05
** significant at p<.10
*** on a 5-point scale from *Strongly Disagree* to *Strongly Agree*

Satisfaction With CWS/CMS

These items measure CSW satisfaction with CWS/CMS at the time of the postsurvey. A factor analysis performed on these variables resulted in the development of three scales.

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Table 13
Factor Loadings for Items Measuring Satisfaction With CWS/CMS
(N = 112)

Satisfaction with:	Time ∝ =.78	Quality ∝ =.79	Access ∝ =.85
The amount of time it takes to save documents	**.568**	.267	.007
Time it takes to start work on CWS	**.653**	.238	.139
Time it takes to document field activity	**.466**	.229	.322
The frequency with which the system goes down	**.695**	.100	.242
Ability to locate information on clients	.003	**.698**	.007
Quality of current information on cases	.253	**.811**	.180
Quality of information on case history	.317	**.625**	.271
Access to information when away from the office	.218	.167	.777
Ability to input information when away from the office	.178	.140	**.843**
Access to a computer	.007	-.002	.009
Access to a printer	.131	.152	.007
Reminders of schedules and deadlines	.142	.244	.374

The mean score on the *Time* scale (postscores only) was 2.34 on a 5-point scale from *Very Unsatisfied* to *Very Satisfied* (SD = .84). The mean score of *Quality* was 2.83 (SD = .89). The mean score of *Access* was 1.83 (SD = .90). Three items were not included in the scaled variables: (a) the mean of satisfaction with *Access to a computer* is 3.80 (SD = 1.21), (b) *Access to a printer* has a mean of 3.67 (SD = .92), and satisfaction with *Reminders of schedules and deadlines* has a mean of 2.94 (SD = .94).

Use of Time

Caseworkers reported spending about one third of their time in face-to-face contacts with clients, and about another third doing documentation of casework. Nearly 20% of time is spent on the telephone in work related to cases. The basic pattern of time spent in different types of communication activities was not drastically altered by

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the implementation of CWS/CMS, though, as shown in Table 14, the transition to CWS/CMS has led to caseworkers to report spending more time doing documentation related to clients (34.1% of their time) than was the case prior to CWS/CMS (30.2%). It is important to note that there has been no corresponding decrease in the amount of time spent in direct contact with clients (32%). Rather, the compensating decrease in time is primarily in time spent on the telephone (19.6% of time before CWS/CMS and 17.1% of time after).

Table 14
Means and Standard Deviations of Percent of Time Spent in Types of Communications Before and After CWS/CMS
(N = 112)

On average what percent of your work time is spent:	% Before	% After	t score
In face-to-face contacts related to clients	31.6 (12.5)	32.4 (15.6)	-.552
In telephone contacts related to clients	19.6 (9.1)	17.1 (9.2)	2.217*
Doing written contacts related to clients	11.1 (8.4)	10.9 (9.24)	.246
Doing documentation related to clients	30.2 (13.3)	34.1 (16.1)	-2.111*
Doing other than above	7.1 (6.6)	6.8 (5.6)	. 536

*significant at p<.05

In another way of describing caseworker activity—with whom they spend their time—again, about one third of their time is spent with clients, while a full 40% is spent alone. Use of the new computer system did lead to some changes in interactions between caseworkers and others (Table 15). After the implementation of CWS/CMS caseworkers spent significantly more time alone (44.4% compared to 37.1% before)

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and less time with co-workers (8.6% compared to 10.3% before) and others (6.8% compared to 8.3% before). Time spent alone includes time working on the computer.

Table 15
Means and Standard Deviations of Percent of Time Spent With Others
(N = 112)

On average what percent of your work time is spent:	% Before	% After	t score
Alone	37.1 (19.2)	44.4 (17.9)	-3.632*
With coworkers	10.3 (7.6)	8.6 (6.1)	1.882**
With your supervisor	11.3 (7.0)	10.1 (7.2)	1.497
With clients or collaterals	32.1 (15.0)	30.1 (15.3)	.889
With all others	8.3 (6.6)	6.8 (6.5)	1.987**

* significant at p<.05
** significant at p<.10

The allocation of time for specific professional activities was addressed by another set of items. These findings (Table 16) confirm that the transition to CWS/CMS has resulted in more paperwork (mean of 4.43 on a 5-point scale before CWS/CMS, compared to a mean of 4.61 after). While time allocated to other essential daily client-related activity did not change, less time was spent on staff development and training activities (mean of 2.54 on a 5-point scale before CWS/CMS, compared to a mean of 2.63 after).

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Table 16
Means and Standard Deviations of Allocation of Time for Casework Activities
(N = 112)

In an average week, how much time do you spend:***	Before	After	t score
Accessing resources	3.21 (.83)	3.22 (.80)	-.109
Working directly with children	3.46 (.86)	3.54 (.89)	-.838
Resolving emergency situations	3.13 (.99)	3.31 (.88)	-1.785**
Seeking placements	2.74 (.90)	2.78 (.77)	-.342
Traveling	3.72 (.93)	3.60 (1.04)	1.204
Appearing in court	2.28 (.94)	2.39 (.94)	-1 .254
Doing paperwork	4.43 (.84)	4.61 (.59)	-2.028*
At supervisory conferences	2.54 (.85)	2.49 (.80)	.422
At staff development activities	2.54 (.84)	2.36 (.70)	1.875**
Doing other case management activities	3.41 (.95)	3.29 (.92)	1.194

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *No Time* to *Quite a Lot of Time*

Information Sources

Four sets of items addressed the issue of where the FM&R workers in this study obtain information that they use in different casework activities: (a) Identifying placement facilities, (b) Identifying resources such as parenting classes or drug treatment programs, (c) Deciding to conduct an unscheduled home visit, and (d) Assessing the level of compliance with court orders. Table 17 shows sources of information used when identifying placement facilities. As measured in the presurvey, consultation with colleagues (mean 3.38 on a 5-point scale) is used the most, followed by calling around (mean 3.21) and self-knowledge (mean 3.15). Interestingly, the use of

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calling around was the only measure that changed in the posttest, with an increase to a mean of 3.60. There was no change in the use of the computer as a source of information.

Table 17
Means and Standard Deviations of Use of Sources of Information When Identifying Placement Facilities
(N = 112)

How often do you use each of the following methods:**	Before	After	t score
Calling around	3.21 (1.27)	3.60 (1.03)	-2.788*
Computer search	2.45 (1.44)	2.32 (1.31)	.886
Consultation with colleagues	3.38 (.97)	3.32 (.79)	.524
Consultation with supervisor	3.01 (1.17)	2.91 (1.05)	.731
Resource directory	2.66 (1.17)	2.74 (1.08)	-.521
Self-knowledge	3.15 (1.16)	3.32 (1.03)	-1.495

* significant at p<.05
** mean scores on a 5-point scale, from *Never* to *Always*

Similar items were used to measure the use of sources of information by CSWs when identifying resources such as parenting classes or drug treatment programs (see Table 18). For this casework function, resource directories were used most (mean 3.67), followed by consultation with colleagues (mean 3.64), and self-knowledge (mean 3.50). There were a number of statistically significant differences between pre- and postdata. Reliance on resource directories and self-knowledge increased (to means of 3.90 and 3.74 respectively), while the reliance on colleagues decreased (mean of 3.48).

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Table 18
Means and Standard Deviations of Use of Sources of Information When Identifying Resources
(N = 112)

How often do you use each of the following methods:***	Before	After	t score
Calling around	3.21 (1.00)	3.19 (1.10)	.148
Computer search	1.76 (.95)	1.64 (.97)	1.157
Consultation with colleagues	3.64 (.93)	3.48 (.78)	1.716**
Consultation with supervisor	2.93 (1.13)	2.82 (1.11)	.888
Resource directory	3.67 (1.14)	3.90 (.95)	-1.924**
Self-knowledge	3.50 (1.04)	3.74 (.89)	-2.110*

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Never* to *Always*

Table 19 shows the measures of the use of sources of information by CSWs when they are deciding about conducting an unscheduled home visit. Observation of the child and family in their home is used the most (mean of 4.41 on a 5-point scale), followed by a new report from the hotline (mean of 4.04), review of case files (mean of 3.92), consultation with supervisors (mean of 3.74), contacts with service providers (mean of .66), and review of court reports (mean of .56). After the implementation of CWS/CMS, caseworkers relied less on consultations with supervisors (to a mean of 3.54) and more on service providers (a postmean of 3.89).

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Table 19
Means and Standard Deviations of Use of Sources of Information When Planning an Unscheduled Home Visit
(N = 112)

How much do you rely on the following sources of information:***	Before	After	t score
Review of court reports	3.56 (1.12)	3.65 (1.06)	-650
Review of case files	3.92 (.99)	3.90 (1.00)	.168
Observation of the child and family	4.41 (.84)	4.44 (.73)	-.303
Contacts with service providers	3.66 (1.05)	3.89 (.89)	-1.960**
Contacts with other community members	2.66 (2.79)	2.79 (1.11)	-1.025
Consultation with coworkers	3.12 (.95)	2.94 (.98)	1.600
Consultation with supervisor	3.74 (1.00)	3.54 (1.06)	1.840**
New report from Child Abuse Hotline	4.04 (1.31)	4.15 (1.14)	-.948

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *Not at All* to *Very Much*

The results of the items measuring the use of sources of information when assessing the level of compliance with court orders are shown in Table 20. Again, direct observation of the child and family is the most important source of information (mean 4.56), followed by contacts with service providers (mean 4.40), review of case files (mean 4.37), and review of court reports (4.36). The only statistically significant difference between pre- and postdata is that reliance of direct observation of child and family decreased (to a mean of 4.34).

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Table 20
Means and Standard Deviations of Use of Sources of Information When Assessing Court Compliance
(N = 112)

How much do you rely on the following sources of information:***	Before	After	t score
Review of court reports	4.36 (.89)	4.27 (.86)	832
Review of case files	4.37 (.79)	4.24 (.84)	1.250
Observation of the child and family	4.56 (.66)	4.34 (.91)	2.188*
Contacts with service providers	4.40 (.74)	4.35 (.87)	.565
Contacts with other community members	2.84 (1.10)	2.84 (1.21)	.000
Consultation with coworkers	2.93 (1.02)	2.83 (1.02)	.968
Consultation with supervisor	3.68 (1.09)	3.51 (1.12)	1.427
New report from Child Abuse Hotline	3.71 (1.38)	3.91 (1.19)	-1.453

* significant at p<.05
** significant at p<.l 0
*** mean scores on a 5-point scale, from *Not At All* to *Very Much*

Transferred Cases

Both before and after the implementation of CWS/CMS caseworkers had about nine cases (9.5 mean before implementation) transferred to them each month, though there was a wide range on this item (SD = 9.71). As demonstrated in Table 21, each of the problems concerning information in transferred cases occurred about *Sometimes* (3 on the 5-point scale). These problems occurred more after implementation of CWS/CMS than before, especially a lack of documentation concerning case decisions (2.74 mean before and 2.96 after), a lack of information about birth parents (2.81 mean

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before and 3.12 after), and a lack of information needed to locate relatives and other important collateral contacts (3.04 mean before and 3.28 after).

Table 21
Means and Standard Deviations of the Amount of Occurrence of Problems in Transferred Cases
(N = 112)

How often do these problems occur in cases that are transferred to you:***	Before	After	t score
No documentation on provision of services	2.78 (1.03)	2.93 (.87)	-1.276
No documentation supporting case decisions	2.74 (1.04)	2.96 (.90)	-1.804**
No home address or locating information	2.28 (.92)	2.19 (.94)	.877
Insufficient information about birth parents	2.81 (.98)	3.12 (1.02)	-2.397*
Insufficient information about child's adjustment to current placement	2.93 (1.01)	3.07 (.98)	-1.194
No information about medical status	2.83 (.97)	2.99 (.92)	-1.399
Insufficient information to locate relatives and collaterals	3.04 (.98)	3.28 (.92)	-2.301

* significant at p<.05
** significant at p<.10
*** mean scores on a 5-point scale, from *No Time* to *Quite a Lot of Time*

Workplace Interactions

Caseworkers met alone with their supervisors about four times per week (mean of 3.95, SD = 3.38 in the pretest) both before and after CWS/CMS, and about once a week (mean of .93, SD = .81 in predata) in a group.

Of the time spent with supervisors, most of it (mean 61.8%) was spent discussing cases and some (mean 16.8%) with discussing policy and procedures (Table 22). After CWS/CMS, a statistically significant greater percent of time (mean of 5.7% versus mean of 4.1% on the pretest) was spent reviewing CSWs' job evaluations.

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Table 22
Means and Standard Deviations of Percent of Time of Activities With Supervisors (N = 112)

Of the time spent with your supervisor, what percent of your work time is spent on:	% Before	% After	t score
Consultation about cases	61.8 (21.1)	64.0 (22.9)	-.912
Discussing work policy	16.8 (13.1)	14.6 (11.3)	1.345
Evaluation of work performance	4.1 (5.0)	5.7 (7.6)	-2.549*
Review of unit and department issues	9.2 (9.2)	9.0 (9.3)	.173
Socializing	4.3 (6.0)	4.8 (5.4)	-.658
Other	3.8 (10.5)	2.8 (10.4)	.764

*significant at p<.05

In Table 23, CSWs reported spending a mean of 1.81 hours (SD = 1.64) per day interacting with coworkers. This did not change significantly after the implementation of CWS/CMS. Half (48.8%) of this time was spent on consultation about cases, with the remaining time split between discussing work policy (24.1%) and socializing (21.9%). The amount of time in each of these categories went down slightly, but not significantly, after the transition to CWS/CMS, while the *Other* category underwent a statistically significant increase (from 3.4% to 5.5%).

Table 23
Means and Standard Deviations of Percent of Time of Activities With Co-Workers (N = 112)

Of the time spent with your coworkers, what percent of your work time is spent on:	% Before	% After	t score
Consultation about cases	48.8 (22.4)	48.5 (22.9)	.136
Discussing work policy	24.1 (15.4)	23.9 (17.0)	.104
Socializing	21.9 (23.5)	21.6 (20.6)	.155
Other	3.4 (6.4)	5.5 (11.5)	-2.005*

* significant at p<.05

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In measures of the quality of interactions with supervisors and coworkers (shown in Table 24), CSWs rated the interactions as of very high quality (mean of 4.32 on a 5-point scale in the pretest for relationships with coworkers, and 4.42 for support from coworkers). The reported supportiveness of supervisors decreased significantly subsequent to the implementation of CWS/CMS (from a mean of 4.54 to 4.30).

Table 24
Means and Standard Deviations of Ratings of Quality of Relationships
(N = 112)

To what extent are:**	Before	After	t score
Relationships with coworkers friendly	4.32 (.76)	4.41 (.73)	-.954
Coworkers supportive	4.42 (.69)	4.32 (.80)	1.364
Supervisor supportive	4.54 (.76)	4.30 (1.01)	2.284*

* significant at p<.05
** on a 5-point scale from *Not at All* to *Very Much*

MULTIVARIATE ANALYSIS

Hierarchical linear regression analysis was used to explore the ways that variables in the study account for the observed pre/post changes in CSWs' work practices and attitudes. Theoretically relevant variables were regressed on each of the pre/post differences that had been found to be significant using t-test procedures. Stepwise regression analysis enabled the identification of statistically significant predictors of change. Whenever possible, scaled items were used in order to bolster the internal reliability and validity of the measure. However, single survey items with conceptual relevance that did not load on any significant factors were also tested.

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Finally, given the exploratory nature of this study, we utilized two-sided tests without imposing a directionality on the results.

The factors tested in each regression model include:

- *Demographics*: age, gender, ethnicity, and education.
- *Work-related characteristics:* tenure, county (San Francisco, Los Angeles), Region within Los Angeles, caseload size, and job title (CSW vs. CSW trainee).
- *Attitudes toward work* (pretest measures) attitudes toward the organization as a whole (scale), perception of control of work (scale), the extent of positive feeling about working at DCFS or DHS, sense of opportunity to use one's ability and skills, sense of accomplishing many worthwhile things on the job, expectation of potential for personal advancement in the agency, and the ability to isolate thoughts of work from extrawork life.
- *Attitudes toward computers in general* (pretest measures): positive attitudes about computerization in the workplace (scale), negative attitudes about computerization in the workplace (scale), and attitudes about the benefit of computers for employees (scale).
- *Perceptions of CWS/CMS* (pretest and posttest measures): Pretest measures include positive expectations of CWS/CMS to benefit work in the future (scale) and expectations of CWS/CMS to change staff/client and other interpersonal relations at work (scale), the extent to which CWS/CMS will allow more monitoring and control of one's work, and the extent to which CWS/CMS will infringe on client confidentiality. Posttest measures include evaluation of the quality and accessibility of information provided by CWS/CMS (scale), evaluation of the time/efficiency of CWS/CMS (scale), satisfaction with access to the system at the office, and satisfaction with access to the system when away from the office (scale).
- *Computer proficiency* (pretest measures): typing, computer skills, and hours received in training on CWS/CMS at pretest; (posttest measure): a count of the tasks performed on CWS/CMS (range 0-8).
- *Interpersonal relations at work* (pretest measures): quantity of time spent with coworkers per day in minutes, quality of relationships with coworkers and perception of the supportiveness of supervisor.

Statistically significant conclusions among these regressions are scattered and, taken as a whole, do not present a coherent pattern of influences on the important

outcomes of the study. Based on the findings from the regression analyses, we can neither develop coherent predictive models for important outcomes, nor identify variables that consistently influence outcomes. Here we do not systematically present the findings of the stepwise regressions. Rather we highlight some significant results, and give examples that indicate overall patterns.

Use of Time

CSWs reported differences in the manner in which they use their time at work between pretest and posttest, subsequent to the implementation of CWS/CMS. Specifically, the changes involve CSWs spending less time making phone contacts related to clients, more time on documentation related to clients, more time resolving emergency situations, and less time in staff development activities found in CSWs' use of time at work. Furthermore, workers reported spending more time alone and less time with coworkers and others.

Although we had hoped to find some factors that influenced this process of shifting time priorities as a whole, we found instead that different factors predicted different findings, leaving us with no reliable or consistent predictors that can shed light on the causal nature of these changes. For example, the significant predictors for the inclination of CSWs to report spending more time alone at posttest (R^2 = .24) were workers' perceptions of having more opportunity to use their abilities and skills (greater inclination to perceive the job as offering opportunity to use abilities and skills at pretest was associated with less change in the direction of more time spent alone), and degree

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(CSWs with an MSW were less likely to report an increase in spending time alone relative to CSWs with a BA degree).

However, with respect to a related result whereby CSWs reported that a greater percentage of their time is spent on general documentation related to clients at posttest, the significant predictors were different. This change was positively associated with the pretest measures of the evaluation of how well one can type, as well as with the extent to which one expected the CWS/CMS system to allow for more monitoring of one's work (R^2 = .21). Moreover, the significant predictors for the amount of time spent in doing paperwork at posttest involved still other factors. The change toward a greater amount of time spent on paperwork was accounted for by caseload size (CSWs with higher caseloads were more likely to spend more time on paperwork), as well as ethnicity, (CSWs of Hispanic ethnicity were less likely to experience this change in the direction of more time on paperwork relative to Whites; R^2 = .34). In other words, the divergent results related to the changes in usage of time make it impossible to make generalizations regarding what it is that clearly impacts those changes.

Workplace Interactions

In regards to the relations between workers and supervisors, there is an identifiable effect of ethnicity. Relative to Whites, Asians report the highest mean change in the direction of less perceived support from supervisors, followed by African Americans and Hispanics. In other words, at posttest, ethnic minorities perceived a decrease in supervisor's support of themselves as well as of their work, compared to Whites. There are also some Los Angeles Regional differences involved in the change

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toward perceiving less support from supervisor—being in Region A or Region B relative to Region C is predictive of a posttest report indicating less support from supervisor. There was an R^2 = .44 for this model. Similarly, in terms of the increased time spent with supervisors on evaluation of work, again ethnicity was the significant predictor. Relative to Whites, African American CSWs report more of an increase in percent of time spent on evaluation of job performance (R^2 = .17).

Attitudes Toward the Agency.

As mentioned elsewhere, many of the attitudes towards the job and workplace did not change following the introduction of CWS/CMS. However, a couple of pretest/posttest changes in attitudinal measures were found that were analyzed in the regression analysis—CSWs reported liking to work at DCFS less at posttest, and workers reported a greater sense of having accomplished worthwhile things on the job at posttest. What predicts the change toward liking to work at DCFS less at posttest? The factors that impact this trend are both directly and indirectly related to the adoption of computers (R^2 = .58). The most important factor involves satisfaction with access to the CWS/CMS system when away from the office. CSWs who were more inclined to be satisfied with the system's accessibility reported fewer declines in their positive sentiment toward working at DCFS. Second, respondents who had been CSW trainees at pretest and consequently were new to the job were more inclined to report liking to work at DCFS less at posttest in comparison to respondents who were regular CSWs at pretest. The explanation for this may lie with dynamics involving employee burnout at work in the short-term interim following hire. Third, CSWs who reported at pretest that

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they have a good chance of advancement in the agency reported less of a change in the negative direction mentioned above. On the other hand, two other attitudinal measures are positively associated with the trend of liking to work at DCFS less at posttest. The pretest perception of having a more positive attitude toward the use of computers in the profession as well as having a lot of opportunities to use one's abilities and skills at work are associated with liking to work at DCFS less when surveyed the second time. The explanation for this is unclear but may be attributed to some disappointment with the impact of computers on one's work. Finally, social interactions impacted this trend such that CSWs who reported more minutes spent with coworkers per day were less likely to report liking to work at DCFS less at posttest.

Interestingly, the factors found to predict the change toward CSWs' report that on average they have a greater sense of accomplishing worthwhile things at work are all associated with the CWS/CMS system (R^2 = .352). First, the expectation that CWS/CMS will allow more monitoring of work at pretest accounts for most of the variance of this change toward a higher score. Second, the number of CWS/CMS training hours at pretest predicted a sense of greater accomplishment at work following the system implementation. Satisfaction with the quality and access of information from CWS/CMS was negatively related with the trend toward a sense of greater accomplishment of worthwhile things. In other words, CSWs who reported greater satisfaction with the substantive contribution of CWS/CMS to their case management were inclined to report less change in the direction of greater satisfaction with their accomplishments.

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CONCLUSION

In the multivariate analyses, the important conclusions of the study lie in nonfindings, indicating the stability of the changes that were found in pre- and postcomparisons. For the most part, these changes persist regardless of the age, gender, ethnicity, and education of CSWs. They are consistent across counties and regardless of length of time on the job. In addition, computer proficiency and computer use do not predict the effects of CWS/CMS on casework practices.

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MODULE V

DISCUSSION

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MODULE V
DISCUSSION

As Mantovani (1994) reminds us, each new technological system is unique, and the implementation and use of each is embedded in the unique attributes of the implementing agency. As we discuss the implications of this study, we need to remember its unique circumstances, so as not to generalize these conclusions beyond these circumstances. CWS/CMS is a particular computer system for public child welfare, currently used only in California. Participation in the study was limited to FM&R workers in two California counties. Even more, the timing of data collection within the design of this study requires consideration of the applicability of conclusions over time even to these workers in this setting. As Parsons et al. (1991) demonstrated in studying a temporal process such as the ways in which workers adapt their practices to new technologies, measurements at multiple times are important. The timing of our pre- and postdata collections was the best that could be accomplished given the time constraints of the research project itself, of the implementation of CWS/CMS within DCFS and DHS, and of concerns regarding worker turnover. In addition, steps were taken to measure the degree of computer use and proficiency. Nonetheless, with this two-time design, the degree to which the use of computers has become embedded in daily practice, the extent to which its use has supplanted the old paper system, and the extent to which measurable changes in practice and social interactions have stabilized remain uncertain. The changes in practice measured in this study may increase over time, while other important changes may emerge in the long run. At the same time, it is

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possible that some changes measured in this study may be artifacts of the transition period, likely to diminish or disappear over time.

Overall, the conclusions of this study indicate that the implementation of CWS/CMS has not led to drastic changes in the ways in which CSWs carry out their daily work. This serves to reinforce the view that the computer system, while making the flow and use of information more efficient, should not in fact have any marked impact on core casework activities. At the same time, this study demonstrates that the worst fears of some—that the computer will distract caseworkers from the key elements of their job, or will lead to information breakdowns that will put clients at risk—are not coming true. A key finding is that the amount of time that caseworkers spend with clients is unchanged by the computer system. Indeed, as we describe the conclusions of the study, it is clear that a significant barometer of CWS/CMS impact is the fact that many important measurements did not change from pre- to postsurvey.

However, this study does demonstrate that CWS/CMS has led to some modest but crucial changes in how workers spend their time on the job. It has affected the quantity and quality of relationships with others on the job and it has changed some attitudes of workers toward their agency and their job. We summarize those important changes below, including insights from the observation data where it helps to understand the measured quantitative changes.

CSWS AND CWS/CMS

Before the implementation of CWS/CMS the attitudes of these FM&R workers toward computers was generally positive. Fears about the limits of computers (2.95)

was just below the mid-point of the 5-point scale, while beliefs about the usefulness of computers in regards to making information available was high (3.91), as was the expression of positive attitudes toward computers in the profession (3.88). Ambivalence about the overall usefulness of computers, however, is expressed in the lower score (2.94) on feelings about the benefits of computers to professional staff. Perhaps these relatively benign attitudes toward computers are due to the quite high degree of general computer proficiency that these workers had prior to CWS/CMS (Parsons et aI., 1991; Rafaeli, 1986). At the pretest, three fourths of the CSWs rated themselves as above beginner on computers, and only a small minority (6%) had no computer experience at all. All of the caseworkers that we observed had considerable computer experience and they were using the computers on their desks to a high degree even before CWS/CMS came online. The most evident proficiency problem was a lack of typing ability, a major problem for one of these caseworkers, leading to extra typing courses in the evening.

In examining the use of CWS/CMS at the time of the posttest, it is apparent that this data collection time caught workers well into, but not completely through, the transition from the old paper files to the new system. All subjects were using CWS/CMS for at least the most basic tasks and many were using the system for all of the tasks that we had identified. However, many of the subjects were not yet using the system for all tasks. These data, together with other data from DCFS (Nayo & Breuer, 1999), suggest that, given the gradual implementation process chosen by DCFS, a full 2 years may need to pass after implementation before use of the computer system has become routine.

Based on their experiences to date with CWS/CMS, CSWs were not satisfied with the system. Satisfaction with the time it takes the computer to accomplish various tasks was only 2.32 on a 5-point scale, and satisfaction with the accessibility and quality of information through the system was only 2.83. Dissatisfaction with the time it took for various files to load on the computer was evident during our observations. One caseworker was talking to her computer while pulling up a case, "How long is this going to take? I used to really jam—now I'm so slowed down. Well, this is just a waste of time....OK, it was my intention to use you, but now I'm really mad." She pulled out a paper form and proceeded to fill it out, ignoring the computer. The observed caseworkers who were most computer proficient prior to CWS/CMS were displeased that they could no longer do their computer work at home. Considerable time and energy was required by the observed caseworkers to work through their initial transition to CWS/CMS: "It took me an hour just to document three phone calls." These low satisfaction scores are of concern, since saving time and increasing the quality of information are exactly the stated goals of the CWS/CMS (California State Department of Social Services, n.d.). More optimistically, though, it would seem that satisfaction might rise both as workers become more proficient in the use of CWS/CMS, and as the system itself is modified to improve performance.

Interestingly, all of the expectations of CSWs regarding the advent of the computer system, positive and negative, were exaggerated beyond the reality which appeared after the use of CWS/CMS. For example, the actual contribution that CWS/CMS makes in the CSWs' work was rated only 2.69 (on a 5-point scale),

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compared with the expected contribution of 3.25. Likewise the fear that CWS/CMS would lead to more monitoring of work was rated at 3.96 before implementation, down to 3.51 afterwards. The observed caseworkers generally were looking forward to the new system, though they had some concerns. One commented, "In the long run, the new computer system will be great. It will force people to keep the information up. But we spend all our time in the field." Another remarked, "In the long run it will have a positive effect, but it will slow down work at first." The moderate perceptions by workers after the implementation of CWS/CMS reinforce our general observation that the effects of the computer system are not drastic. Certainly, they are not as extreme as the workers themselves had anticipated.

INFORMATION SOURCES

To meet its stated goals, CWS/CMS must "facilitate caseworker decisions by providing caseworkers with immediate access to case file information and reducing the time spent by workers searching for case information" (Statewide Automated Child Welfare Information Systems, 1993, p. 67940). There is no evidence from this study that this goal is being achieved. Presumably, the effective use of the CWS/CMS would lead to a shift toward more efficient ways of eliciting and using information. However, in the four sets of items in this study through which we measured the relative use of various sources of information before and after CWS/CMS, no consistent patterns of change emerged. In fact, though there were some differences, the most notable finding is the similarity between the ways in which information was collected and used in the practice decisions of FM&R CSWs before and after CWS/CMS. In particular, the reliance on the

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computer as a source of information did not change after the implementation of CWS/CMS.

It is here that consideration of the possible effects of the time of data collection need to be considered. It is a plausible interpretation that, while workers are struggling to use the computer system for the mandated data entry requirements, their comfort and skill with the system has not progressed to the point where they are enthusiastically and creatively using the system to replace their old ways of doing business. They continue to rely on colleagues, resource directories, and their own knowledge to obtain the information needed for case decisions rather than turning to the new computer system. Another, perhaps equally plausible, interpretation is that the computer will not in the long run change the ways in which caseworkers obtain and use information—that the computer files will simply be used in the same manner as the old paper files. If this is the case, it is not clear how computerized child welfare information systems will lead to more efficient and effective case decisions.

USE OF TIME ON CASEWORK ACTIVITIES

It is an important finding of this study that CWS/CMS has led to more time being spent doing documentation related to cases, consistent with Edwards & Reid (1989). The percent of time on *paperwork* increased from 30% to 34%, or from 4.43 on a 5-point scale to 4.61. Observations during the transition to the CWS/CMS system clearly showed more time and energy devoted to case documentation. Early in the transition, much of this was due to simply learning how to use the new system. Another important factor, however, is that before CWS/CMS workers were completing the required

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documentation in the field during visits with clients and collaterals, then simply filing them when they returned to the office. After CWS/CMS, they must take notes in the field, then complete the forms on the computer after returning to the office.

> When I started, I used to just take notes in the field, then have to come back and write up the green sheets. Then I learned to do the green sheets in the field. Now it's going back to the way it used to be. I'll come back to the office with a bunch of notes I took in the field. What we need is a laptop.

One of the general insights gained from observing caseworkers was that they are proficient in *multitasking* (i.e., they are almost always doing more than one thing at a time). They complete case notes while conducting investigations. They write while talking on the phone. They make phone calls (and sometimes complete forms) while driving. They are very efficient about contacts—using every phone call and conversation to complete multiple tasks. It is this multitasking that has been disrupted somewhat by the advent of CWS/CMS. We were able to observe them regaining some of this efficiency as they learned to combine tasks with working on the computer—writing and talking on the phone while moving among computer screens. Frustration at the loading time diminished as they learned to call up a case, then turn to another task while waiting for the computer to load.

It is a related important finding that, unlike in Edwards & Reid (1989), time spent with clients remained at about 32%. Interestingly, the increased time spent on paperwork was compensated for in part by a decrease in the percent of time spent on the telephone, which declined from 19.6% to 17.1%. Observers of casework activity

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were struck by the sheer volume of telephone work both before and after CWS/CMS. One worker had 34 messages on her machine after being at training for 2 days. Many phone calls were with clients, as the workers called to arrange appointments or the clients called in with requests for things such as bus passes. The rest of the phone calls were either sending or retrieving information from other government or private agencies involved with the cases. Much of this involved extended informal conversations, hard to duplicate with the computer, but much also involved the exchange of formal reports or information (e.g., attendance at drug treatment programs), which in principle should be able to be carried out over the computer. In any case, we are not certain exactly how time spent on the telephone diminished, especially since other survey findings showed that the use of the telephone as a source of information actually increased at times. One worker said, "Now I don't want to make any more phone calls. It's turning out to be so much work just to document a phone call." Perhaps, unlike face-to-face contact with clients, some of the telephone work can be reduced in order to eliminate increased documentation.

In addition, time allocated for staff development diminished from pre- to postdata collection, but this may somehow be a function of the increased training necessary for CWS/CMS itself. During the transition period to CWS/CMS a great deal of computer-related training was available.

Generally, in spite of the important difference in the amount of paperwork, time allocations for casework activities remain quite similar between pre- and posttests,

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again demonstrating that core casework activities are not drastically altered by the computer system.

WORKPLACE INTERACTIONS

Another key finding is that CSWs spend more time alone after CWS/CMS than they did before, from 37% of their time to 44.5% of their time. Presumably, this is directly related to the increased time spent on case documentation on the computer. Consistent with Bradley et al. (1993) and Tovey et al. (1990), this in turn has led to less time spent with others, especially coworkers.

While observing casework activity, we were impressed with the amount of informal teamwork among workers. CSWs were constantly consulting with each other, translating, sharing resources, visiting each other's clients, and even helping to move the belongings of other CSWs' clients. These observations reinforce the very high ratings given by CSWs to relationships with coworkers. In addition we were struck by the frequency and extent of supervisor involvement with cases. CSWs were having up to a dozen brief consultations with supervisors over the course of a day in the office, and at times calling supervisors from the field. At least some of the supervisors observed were extremely supportive of the caseworkers, always willing to listen to CSWs' problems and concerns. While the quality of relationships with coworkers reportedly was not diminished by CWS/CMS, there is evidence of more problems in relationships with supervisors. The perceived supportiveness of supervisors diminished from 4.54 on a 5-point scale to 4.30 (still very high). And the percent of time with supervisors that was spent discussing work performance increased from 4.1% to 5.7%.

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These findings suggest that the administrative demands inherent in the implementation of CWS/CMS may have led to some increased tension between workers and supervisors. Results from the regression analysis indicate that these tensions are greater for ethnic minorities than for Whites.

TRANSFERRED CASES

While problems with information in transferred cases generally occurred only *Sometimes*, it is clear that the incidence of these problems increased after CWS/CMS. Many of these problems were observed in the field during the early weeks of the transition to CWS/CMS. For some reason, a number of clients were listed as 97 years old. Another client had two biological fathers. A number of cases were not filled out completely when transferred. One caseworker did not have all of his cases listed on his caseload, indicating to his supervisor that his caseload was lower than it was. Again, these are worrisome findings regarding a system with the goal of increasing the accuracy and timeliness of information. We believe, however, that these problems are most likely temporary, the result of the need at the onset of any new computer system to input large amounts of data quickly by relatively inexperienced staff.

ATTITUDES TOWARD DCFS/DHS

Important attitudes toward the agency were not affected by CWS/CMS. General positive attitudes toward the agency (around 3 - Neutral) decreased slightly but not statistically significantly in the posttest. Consistent with Mandell (1989), CSWs did not feel that their work was more controlled by the agency after CWS/CMS than before. Apart from beliefs about the agency itself, however, some attitudes toward the job were

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negatively affected by CWS/CMS. Workers were less likely to like the job, and more likely to feel they were not getting enough recognition on the job. Apparently, while not blaming the agency, workers felt the CWS/CMS was making their job more of a struggle in some ways. At the same time, however, they were more likely to express accomplishment from the job after CWS/CMS. Perhaps workers feel that overcoming the demands of the computer system is an accomplishment in itself, or perhaps they feel that, in spite of the difficulties, use of CWS/CMS is congruent with their image of themselves as modern professionals (Prasad & Prasad, 1994).

MULTIVARIATE ANALYSIS

Significant conclusions from the multivariate analysis do not present a coherent pattern of influences on the important outcomes of the study. The important conclusions from regression analysis lie in nonfindings, indicating the stability of the changes that were found in pre- and postcomparisons. For the most part, these changes persist regardless of the age, gender, ethnicity, and education of CSWs. They are consistent across counties and regardless of length of time on the job. In addition, computer proficiency and computer use do not predict the effects of CWS/CMS on casework practices.

CONCLUSION

In summary, this study has made a contribution to our understanding of the ways in which computerization effects the daily practice of caseworkers in public child welfare. We have seen that contemporary workers in the human services are computer proficient and are willing and able to take on the demands of new technologies.

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However, it remains to be seen whether or not CWS/CMS will meet the goals of more efficient and effective decision-making by CSWs. While it is true that the documentation demands of computers lead to more time spent doing documentation, they do not lead to less time being spent with clients. More time doing documentation at the computer means more time spent alone, and less time spent with coworkers and supervisors. In addition, the transition to computerized casework brings some tension to supervisory relationships and enhances some negative attitudes toward the job. Perhaps most important, however, are the conclusions that both the core activities of casework, and the quality of social relationships on the job remain essentially untouched by the transition to computerization.

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CWS/CMS EFFECT ON PRACTICE STUDY
CWS QUESTIONNAIRE (1/98)

NAME:

DATE:

JOB TITLE:

EMPLOYEE NUMBER:

TELEPHONE NUMBER:
(Area Code) Number

NAME OF SUPERVISOR:

REGION:

OFFICE:

PLEASE REMOVE THIS SHEET FROM THE FRONT OF YOUR QUESTIONNAIRE AND ENCLOSE IT IN THE ENVELOPE PROVIDED.

WE WILL CONTACT YOU AGAIN IN ABOUT NINE MONTHS.

THANK YOU

IUC CWS/CMS Questionnaire (LA)
ID#

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CWS/CMS: EFFECT ON PRACTICE STUDY
CSW QUESTIONNAIRE (1/98)

A. Background and Demographics

A-1. How long have you been a CSW with DCSF? _____/_____
Years Months

A-2. Date of Birth: _____/_____/_____
Month Day Year

A-3. Gender: ☐ Female ☐ Male

A-4. Ethnicity: *(check one)*
- ☐ African American/Black
- ☐ Hispanic/Latino
- ☐ White/Caucasian
- ☐ Native American
- ☐ Asian/Pacific Islander
- ☐ Other (please specify)

A-5. Years of post-high school education: _____ years

A-6. Diplomas, degrees *(check all that apply):*
- ☐ Bachelor's Degree (BA, BS)
- ☐ Master's in Social Work (MSW)
- ☐ Master's Degree (all others)
- ☐ Doctorate (PhD, DSW)
- ☐ Other *(please specify)*

A-7. Program types (service components) you are **primarily** involved with *(check all that apply):*
- ☐ Adoptions
- ☐ FM/FR
- ☐ ER
- ☐ PP
- ☐ Other (please specify):

A-8. Job title *(check one):*
☐ CSW Trainee ☐ CSW I ☐ CSW II ☐ CSW III

A-9. Your caseload size as of today:

Number of children:

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B. Type of Communication

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND ON B-1 -- B-5. THE TOTAL SHOULD EQUAL l00%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

B-1. In **face-to-face** contacts related to clients: _____ % of my time

B-2. In **telephone** contacts related to clients: _____ % of my time

B-3. Developing and sending **written** contacts related to clients (e.g., e-mail, FAX, letters, notices, etc.): _____ % of my time

B-4. Doing documentation related to clients (e.g., court reports) _____ % of my time

B-5. Doing something other than 1-4 above: (e.g., training, staff meetings, talking with colleagues) _____ % of my time

TOTAL: 100%

C. Manner of Work

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND IN EACH SITUATION ON C-1 -- C-5. THE TOTAL SHOULD EQUAL 100%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

C-1. Alone (e.g., driving, writing, or on the phone) _____ % of my time

C-2. With coworkers _____ % of my time

C-3. With your supervisor _____ % of my time

C-4. With clients (e.g., face-to-face with children/families, and/or collaterals) _____ % of my time

C-5. With all others (e.g., DCFS management, clerical staff, trainers, etc.) _____ % of my time

TOTAL: 100%

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D. Allocation of Time for Professional Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE.

IN AN AVERAGE WORK WEEK, HOW MUCH TIME DO YOU SPEND ON THE FOLLOWING ACTIVITIES:

		No time	Not much time	Some time	A lot of time	Quite a lot of time
D-1.	Accessing resources for child welfare clients	1	2	3	4	5
D-2.	Working with children in their homes or in placement	1	2	3	4	5
D-3.	Resolving emergency situations	1	2	3	4	5
D-4.	Seeking placement for children	1	2	3	4	5
D-5.	Job-related travel	1	2	3	4	5
D-6.	Appearing in court	1	2	3	4	5
D-7.	Doing paperwork (including court reports) on child welfare cases	1	2	3	4	5
D-8.	Supervisory conferences	1	2	3	4	5
D-9.	Participation in staff development/ training activities	1	2	3	4	5
D-10.	Other case management activities	1	2	3	4	5

E. Information Sources Utilized in Support of Current Practice Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE (Leave section BLANK if you <u>never</u> do this activity).

Issue E-1: How often do you use each of the following methods to **identify placement facilities for children** in your caseload?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5

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	Never	Rarely	Some-times	Often	Always
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

Issue E-2: How often do you use each of the following methods to **identify resources—such as parenting classes, drug/alcohol treatment providers or food/housing—**for client referral?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

Issue E-3: To what extent do you rely on each of the following sources of information when using your professional judgment to conduct an **unscheduled home visit?**

	Not at all	A little	Some	Much	Very much
1. Review of court report/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observations of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

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Issue E-4. To what extent do you rely on each of the following sources of information to assess the level of clients' **compliance with court orders?**

	Never	Rarely	Some-times	Often	Always
1. Review of court reports/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observation of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

F. Transferred Cases

F-1. About how many open cases have been transferred to you during the last **three months**?

F-2. How often do the following problems occur with cases that are transferred to you: *(circle one number on each line)*

	Never	Rarely	Some-times	Often	Always
1. No documentation regarding past/current provision of services	1	2	3	4	5
2. No documentation supporting the decisions made on the case	1	2	3	4	5
3. No home address or locating information	1	2	3	4	5
4. Insufficient information about birth parents	1	2	3	4	5
5. Insufficient information about child's adjustment to current caretaker/ environment	1	2	3	4	5
6. No information about the child's current medical status	1	2	3	4	5
7. Insufficient information to locate child's relatives or significant collaterals	1	2	3	4	5

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G. Workplace Interactions

INTERACTIONS WITH YOUR **SUPERVISOR** IN AN AVERAGE WORK WEEK:

G-1. How many times do you meet **alone** with your supervisor? *(Enter number of times)*

_____ times per average work week

G-2. How many times do you meet with your supervisor in a **group?** (e.g., staff meetings) *(Enter number of times)*

_____ times per average work week

G-3. Of the time you spend with your supervisor, what % of the time is spent on: *(Enter* %—*total should equal 100%)*

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Evaluation of your job performance	_____%
Review of unit/departmental issues	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

G-4. On an average work day, how much time do you spend interacting with coworkers? (Including the lunch hour.) *(Enter answer as hours and minutes, e.g., 90 minutes = 1 hour, 30 minutes)*

_____hours _____minutes

G-5. Of the time you spend in interaction with your coworkers, what % of the time is spent on:

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

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PLEASE RATE THE GENERAL QUALITY OF YOUR RELATIONSHIP WITH YOUR SUPERVISOR AND COWORKERS: *(circle one)*

	Not at all	A little	Some	Much	Very much
G-6. To what extent is your relationship with your coworkers friendly?	1	2	3	4	5
G-7. To what extent are your coworkers helpful and supportive to you and your work?	1	2	3	4	5
G-8. To what extent is your supervisor supportive of you and your work?	1	2	3	4	5

H. Job and Workplace

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE

PLEASE RATE THE LEVEL OF YOUR AGREEMENT WITH EACH OF THE FOLLOWING STATEMENTS ABOUT YOUR JOB AS A CSW

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-1. I believe my job has a substantial impact on the lives of other people	1	2	3	4	5
H-2. In general, I like working here	1	2	3	4	5
H-3. I feel emotionally drained by this job	1	2	3	4	5
H-4. As a CSW, I have a lot of opportunities to use my abilities and skills	1	2	3	4	5
H-5. I do not get enough recognition for the work I do	1	2	3	4	5
H-6. I have accomplished many worthwhile things on this job	1	2	3	4	5
H-7. I have a good chance for advancement in my agency	1	2	3	4	5
H-8. As a CSW, I am very much personally involved in my work	1	2	3	4	5
H-9. I do not care what happens to DCFS as long as I get my paycheck	1	2	3	4	5

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	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-10. I easily put thoughts about work out of my mind at the end of the day	1	2	3	4	5
H-11. I try to think of better ways of doing my job	1	2	3	4	5
H-12. There can be little action taken here until a supervisor approves a decision	1	2	3	4	5
H-13. Persons wanting to make their own decisions would be quickly discouraged here	1	2	3	4	5
H-14. Even small matters have to be referred to someone higher up for a final decision	1	2	3	4	5
H-15. I have to ask my supervisor before I do almost anything	1	2	3	4	5
H-16. Any decision I make has to have my supervisor's approval	1	2	3	4	5
H-17. I am proud to represent DCFS	1	2	3	4	5
H-18. I support the goals and values which DHS upholds	1	2	3	4	5
H-19. I feel that top management can be trusted	1	2	3	4	5
H-20. DCFS's plans are well carried out	1	2	3	4	5
H-21. I think the way this organization puts policies into practice is fair	1	2	3	4	5
H-22. I believe that the management has the clients' best interests in mind when setting policies	1	2	3	4	5

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I. CWS/CMS: Expectations

INSTRUCTIONS: ALTHOUGH THE CWS/CMS COMPUTERIZATION HAS NOT YET BEEN IMPLEMENTED IN YOUR UNIT, PLEASE TELL US HOW YOU EXPECT IT WILL AFFECT YOU ON AN ONGOING BASIS.

Please rate your level of agreement with each of the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I-1. I expect CWS/CMS to change my job	1	2	3	4	5
I-2. CWS/CMS will allow more monitoring of my work	1	2	3	4	5
I-3. CWS/CMS will give me better information to work with	1	2	3	4	5
I-4. CWS/CMS will control my behavior at work	1	2	3	4	5
I-5. Using the computer will make me more productive	1	2	3	4	5
I-6. CWS/CMS will improve communication with others within DHS	1	2	3	4	5
I-7. CWS/CMS will save time on paperwork	1	2	3	4	5
I-8. I am threatened by the thought of using CWS/CMS	1	2	3	4	5
I-9. CWS/CMS will make my job easier in the long run	1	2	3	4	5
I-10. CWS/CMS will benefit my clients	1	2	3	4	5
I-11. My performance will be judged more accurately with CWS/CMS	1	2	3	4	5
I-12. I expect to be able to use CWS/CMS effectively	1	2	3	4	5
I-13. CWS/CMS will make confidential client information *too* widely available	1	2	3	4	5
I-14. I think that the CWS/CMS will change my interactions with:					
a. my clients	1	2	3	4	5
b. my supervisor	1	2	3	4	5
c. my coworkers	1	2	3	4	5
d. DCFS administration/management	1	2	3	4	5
I-15. I am well informed about CWS/CMS	1	2	3	4	5

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J. Your Computer Proficiency

(Check one for J-1 through J-4.)

J-1. How often do you use a computer at work?
- ☐ Never
- ☐ Once a month
- ☐ A few times a month
- ☐ A few times a week
- ☐ Once a day or more

J-2. How well can you type on the computer?
- ☐ Non-typist
- ☐ Up to 10 wpm
- ☐ 11-25 wpm
- ☐ 25+ wpm

J-3. Rate your computer skills *(Please check one box):*
- ☐ No Skills: have never used a computer
- ☐ Beginner: can use some programs when shown exactly what to do
- ☐ Beginner Plus: can use a computer regularly, usually need help to get unstuck
- ☐ Somewhat Competent: use a computer regularly, sometimes need help to get unstuck
- ☐ Competent: use a computer regularly, usually know how to fix problems that arise

J-4. Have you received training on CWS/CMS?
- ☐ No
- ☐ Yes

If yes, about how many hours: _____

K. Computerization in General

INSTRUCTIONS: CIRCLE THE ANSWER THAT BEST DESCRIBES YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
K-1. Computers increases the flow of communication within an agency	1	2	3	4	5
K-2. The type of information usually available through computer information systems is useful	1	2	3	4	5
K-3. I think computer information systems are generally complex and difficult to understand	1	2	3	4	5

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	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
K-4. Computer systems generally limit the flexibility that individual employees have within an organization	1	2	3	4	5
K-5. Computer systems impose artificial precision and categorization in my profession	1	2	3	4	5
K-6. Computers help employees achieve their maximum potential	1	2	3	4	5
K-7. Computers tend to dehumanize the work situation	1	2	3	4	5
K-8. I have a positive attitude towards the use of computers in my profession	1	2	3	4	5
K-9. The usage of computers will increase the employment opportunities in my profession	1	2	3	4	5
K-10. Computerization in the workplace tends to hinder the development of friendships among employees	1	2	3	4	5
K-11. The introduction of computers has the potential to change the whole social environment in an organization	1	2	3	4	5

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CWS/CMS: EFFECT ON PRACTICE STUDY
CSW QUESTIONNAIRE (4/99)

NAME: _____

EMPLOYEE NUMBER: _____

REGION: _____

OFFICE: _____

DATE: _____

PLEASE RETURN THE COMPLETED QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

THANK YOU.

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CWS/CMS: EFFECT ON PRACTICE STUDY
CSW QUESTIONNAIRE (4/99)

A. Work Status

A-1. Program types (service components) you are **primarily** involved with *(check all that apply):*

☐ Adoptions
☐ FM/FR
☐ ER
☐ PP
☐ Other (please specify): _____

A-2. Job title *(check one):*

☐ CSW Trainee ☐ CSW I ☐ CSW II ☐ CSW III

A-3. Your caseload size as of today:

Number of children: _____

B. Type of Communication

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND ON B-1 -- B-5. THE TOTAL SHOULD EQUAL l00%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

B-1. In **face-to-face** contacts related to clients: _____ % of my time

B-2. In **telephone** contacts related to clients: _____ % of my time

B-3. Developing and sending **written** contacts related to clients (e.g., e-mail, FAX, letters, notices, etc.): _____ % of my time

B-4. Doing documentation related to clients (e.g., court reports): _____ % of my time

B-5. Doing something other than 1-4 above (e.g., training, staff meetings, talking with colleagues): _____ % of my time

TOTAL: 100%

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C. Manner of Work

INSTRUCTIONS: WRITE IN THE PERCENT OF YOUR TIME YOU SPEND IN EACH SITUATION ON C-1 -- C-5. THE TOTAL SHOULD EQUAL 100%.

ON AVERAGE, WHAT PERCENT OF YOUR WORK TIME IS SPENT:

C-1. Alone (e.g., driving, writing, or on the phone) _____ % of my time

C-2. With coworkers _____ % of my time

C-3. With your supervisor _____ % of my time

C-4. With clients (e.g., face-to-face with children/families, and/or collaterals) _____ % of my time

C-5. With all others (e.g., DCFS management, clerical staff, trainers, etc.) _____ % of my time

TOTAL: 100%

D. Allocation of Time for Professional Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE.

IN AN AVERAGE WORK WEEK, HOW MUCH TIME DO YOU SPEND ON THE FOLLOWING ACTIVITIES:

	No time	Not much time	Some time	A lot of time	Quite a lot of time
D-1. Accessing resources for child welfare clients	1	2	3	4	5
D-2. Working with children in their homes or in placement	1	2	3	4	5
D-3. Resolving emergency situations	1	2	3	4	5
D-4. Seeking placement for children	1	2	3	4	5
D-5. Job-related travel	1	2	3	4	5
D-6. Appearing in court	1	2	3	4	5
D-7. Doing paperwork (including court reports) on child welfare cases	1	2	3	4	5
D-8. Supervisory conferences	1	2	3	4	5
D-9. Participation in staff development/ training activities	1	2	3	4	5
D-10. Other case management activities	1	2	3	4	5

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E. Information Sources Utilized in Support of Current Practice Activities

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE

Issue E-1: How often do you use each of the following methods to **identify placement facilities for children** in your caseload?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

Issue E-2: How often do you use each of the following methods to **identify resources—such as parenting classes, drug/alcohol treatment providers or food/housing—**for client referral?

	Never	Rarely	Some-times	Often	Always
1. Calling around	1	2	3	4	5
2. Computer search	1	2	3	4	5
3. Consultation with colleagues	1	2	3	4	5
4. Consultation with supervisor	1	2	3	4	5
5. Resource directories	1	2	3	4	5
6. Self-knowledge	1	2	3	4	5

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Issue E-3: To what extent do you rely on each of the following sources of information when using your professional judgment to conduct an **unscheduled home visit?**

	Not at all	A little	Some	Much	Very much
1. Review of court report/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observations of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

Issue E-4. To what extent do you rely on each of the following sources of information to assess the level of clients' **compliance with court orders?**

	Never	Rarely	Some-times	Often	Always
1. Review of court reports/orders	1	2	3	4	5
2. Review of case files	1	2	3	4	5
3. Observation of the child and family during home calls	1	2	3	4	5
4. Through contacts with service providers	1	2	3	4	5
5. Through contacts with other community members (neighbors, etc.)	1	2	3	4	5
6. Discussion/consultation with coworkers	1	2	3	4	5
7. Consultation with supervisor	1	2	3	4	5
8. New report from Child Abuse Hotline	1	2	3	4	5

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F. Transferred Cases

F-1. About how many open cases have been transferred to you during the last **three months?**

F-2. How often do the following problems occur with cases that are transferred to you: *(circle one number on each line)*

	Never	Rarely	Some-times	Often	Always
1. No documentation regarding past/current provision of services	1	2	3	4	5
2. No documentation supporting the decisions made on the case	1	2	3	4	5
3. No home address or locating information	1	2	3	4	5
4. Insufficient information about birth parents	1	2	3	4	5
5. Insufficient information about child's adjustment to current caretaker/ environment	1	2	3	4	5
6. No information about the child's current medical status	1	2	3	4	5
7. Insufficient information to locate child's relatives or significant collaterals	1	2	3	4	5

G. Workplace Interactions

INTERACTIONS WITH YOUR **SUPERVISOR** IN AN AVERAGE WORK WEEK:

G-1. How many times do you meet **alone** with your supervisor? *(Enter number of times)*

_____ times per average work week

G-2. How many times do you meet with your supervisor in a **group?** (e.g., staff meetings) *(Enter number of times)*

_____ times per average work week

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G-3. Of the time you spend with your supervisor, what percent of the time is spent on: *(Enter %--total should equal 100%)*

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Evaluation of your job performance	_____%
Review of unit/departmental issues	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

G-4. On an average work day, how much time do you spend interacting with coworkers? (Including the lunch hour.) *(Enter answer as hours and minutes, e.g., 90 minutes = 1 hour, 30 minutes)*

_____hours _____minutes

G-5. Of the time you spend in interaction with your coworkers, what percent of the time is spent on:

Consultation about clients and cases	_____%
Discussing policy/work procedures	_____%
Socializing	_____%
Other	_____%
TOTAL:	**100%**

PLEASE RATE THE GENERAL QUALITY OF YOUR RELATIONSHIP WITH YOUR SUPERVISOR AND COWORKERS: *(circle one)*

	Not at all	A little	Some	Much	Very much
G-6. To what extent is your relationship with your coworkers friendly?	1	2	3	4	5
G-7. To what extent are your coworkers helpful and supportive to you and your work?	1	2	3	4	5
G-8. To what extent is your supervisor supportive of you and your work?	1	2	3	4	5

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H. Job and Workplace

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE

PLEASE RATE THE LEVEL OF YOUR AGREEMENT WITH EACH OF THE FOLLOWING STATEMENTS ABOUT YOUR JOB AS A CSW

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-1. I believe my job has a substantial impact on the lives of other people	1	2	3	4	5
H-2. In general, I like working here	1	2	3	4	5
H-3. I feel emotionally drained by this job	1	2	3	4	5
H-4. As a CSW, I have a lot of opportunities to use my abilities and skills	1	2	3	4	5
H-5. I do not get enough recognition for the work I do	1	2	3	4	5
H-6. I have accomplished many worthwhile things on this job	1	2	3	4	5
H-7. I have a good chance for advancement in my agency	1	2	3	4	5
H-8. As a CSW, I am very much personally involved in my work	1	2	3	4	5
H-9. I do not care what happens to DCFS as long as I get my paycheck	1	2	3	4	5
H-10. I easily put thoughts about work out of my mind at the end of the day	1	2	3	4	5
H-11. I try to think of better ways of doing my job	1	2	3	4	5
H-12. There can be little action taken here until a supervisor approves a decision	1	2	3	4	5

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		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
H-13.	Persons wanting to make their own decisions would be quickly discouraged here	1	2	3	4	5
H-14.	Even small matters have to be referred to someone higher up for a final decision	1	2	3	4	5
H-15.	I have to ask my supervisor before I do almost anything	1	2	3	4	5
H-16.	Any decision I make has to have my supervisor's approval	1	2	3	4	5
H-17.	I am proud to represent DCFS	1	2	3	4	5
H-18.	I support the goals and values which DCFS upholds	1	2	3	4	5
H-19.	I feel that top management can be trusted	1	2	3	4	5
H-20.	DCFS's plans are well carried out	1	2	3	4	5
H-21.	I think the way this organization puts policies into practice is fair	1	2	3	4	5
H-22.	I believe that the management has the clients' best interests in mind when setting policies	1	2	3	4	5

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I. CWS/CMS: Expectations

INSTRUCTIONS: ALTHOUGH THE CWS/CMS COMPUTERIZATION HAS NOT YET BEEN IMPLEMENTED IN YOUR UNIT, PLEASE TELL US HOW YOU EXPECT IT WILL AFFECT YOU ON AN ONGOING BASIS:

PLEASE RATE YOUR LEVEL OF AGREEMENT WITH EACH OF THE FOLLOWING STATEMENTS.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I-1. I expect CWS/CMS to change my job	1	2	3	4	5
I-2. CWS/CMS will allow more monitoring of my work	1	2	3	4	5
I-3. CWS/CMS will give me better information to work with	1	2	3	4	5
I-4. CWS/CMS will control my behavior at work	1	2	3	4	5
I-5. Using the computer will make me more productive	1	2	3	4	5
I-6. CWS/CMS will improve communication with others within DHS	1	2	3	4	5
I-7. CWS/CMS will save time on paperwork	1	2	3	4	5
I-8. I am threatened by the thought of using CWS/CMS	1	2	3	4	5
I-9. CWS/CMS will make my job easier in the long run	1	2	3	4	5
I-10. CWS/CMS will benefit my clients	1	2	3	4	5
I-11. My performance will be judged more accurately with CWS/CMS	1	2	3	4	5
I-12. I expect to be able to use CWS/CMS effectively	1	2	3	4	5
I-13. CWS/CMS will make confidential client information *too* widely available	1	2	3	4	5
I-14. I think that the CWS/CMS will change my interactions with:					
a. my clients	1	1	1	1	1
b. my supervisor	1	1	1	1	1
c. my coworkers	1	1	1	1	1
d. DCFS administration/management	1	1	1	1	1
I-15. I am well informed about CWS/CMS	1	2	3	4	5

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K. CWS/CMS Proficiency

INSTRUCTIONS: PLEASE CHECK OR CIRCLE THE ANSWER THAT BEST DESCRIBES WHICH JOB-RELATED TASKS YOU DO ON THE COMPUTER AND HOW PROFICIENT YOU ARE IN DOING THEM.

	Have you done it?	**If yes, rate your proficiency in this task**				
		Poor	Fairly low	Moderate	Good	Very good
K-1. Copy and paste MS Word documents in CWS	No ☐ Yes ☐	1	2	3	4	5
K-2. Do case plans on CWS	No ☐ Yes ☐	1	2	3	4	5
K-3. Gather information for case planning on CWS	No ☐ Yes ☐	1	2	3	4	5
K-4. Write court reports on CWS	No ☐ Yes ☐	1	2	3	4	5
K-5. Record contacts with clients on CWS	No ☐ Yes ☐	1	2	3	4	5
K-6. Record contacts with service providers on CWS	No ☐ Yes ☐	1	2	3	4	5
K-7. Create (or use) client information notebooks in CWS	No ☐ Yes ☐	1	2	3	4	5
K-8. Create (or use) education notebooks in CWS	No ☐ Yes ☐	1	2	3	4	5

K-9. How many hours of training have you received on CWS/CMS? ___ hours in total.

K-10. If you answered "yes" to having done case plans on CWS/CMS (K-2 above), please indicate for how long you have been doing so (in months): _____months

☐ Not applicable

K-11. If you answered "yes" to having written court reports on CWS/CMS (K-4 above), please indicate for how long you have been doing so (in months): _____months

☐ Not applicable

K-12. If you answered "yes" to having recorded client contact on CWS/CMS (K-5 above), please indicate for how long you have been doing so (in months): _____months

☐ Not applicable

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L. Satisfaction With CWS/CMS

INSTRUCTIONS: CIRCLE ONE NUMBER ON EACH LINE.

PLEASE RATE YOUR LEVEL OF SATISFACTION WITH EACH OF THE FOLLOWING ASPECTS OF USING CWS/CMS IN YOUR JOB AS A CSW.

	Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very satisfied
L-1. Access to a computer	1	2	3	4	5
L-2. CSW's reminders of schedules and upcoming deadlines	1	2	3	4	5
L-3. Time it takes to start work on CWS	1	2	3	4	5
L-4. Ability to locate information on clients	1	2	3	4	5
L-5. Quality of current information on cases	1	2	3	4	5
L-6. The amount of time it takes to save documents	1	2	3	4	5
L-7. Access to information when away from the office	1	2	3	4	5
L-8. Access to a printer	1	2	3	4	5
L-9. Time it takes to document field activity	1	2	3	4	5
L-10. The frequency with which the system goes down and work is lost	1	2	3	4	5
L-11. Quality of information on case history	1	2	3	4	5
L-12. Ability to input information when away from the office	1	2	3	4	5

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