PROFESSIONAL DEVELOPMENT AND THE QUALITY OF CHILD CARE: AN ASSESSMENT OF PENNSYLVANIA'S CHILD CARE TRAINING SYSTEM

Joyce Iutcovich, Richard Fiene, James Johnson, Ross Koppel and Frances Langan

ABSTRACT

The education and training of child care workers are viewed as keys to improving classroom/caregiver dynamics and the overall quality of child care. This assessment of the Pennsylvania Child Care/Early Childhood Development Training System offers an analysis of this hypothesis. The research was designed for dual purposes: to identify training needs for Pennsylvania child care providers and to assess the impact of training and work environment on the quality of care. The results highlight specific areas where there are needs for training and reveal a clear association between opportunities for professional growth and the quality of care.

INTRODUCTION

The care of children and concerns about their future are of great importance to our society. The current trend in public opinion and political action highlights our concern about children and their welfare. According to public polls "the fastest growing segment of the electorate is the one concerned about protecting

Early Education and Care, and Reconceptualizing Play, Volume 11, pages 115–168.

ISBN: 0-7623-0810-9

children and helping parents be good parents" (McAllister, 1997, p. 36). Further, we have seen new research on the impact of a child's early experiences on how his or her brain is "wired." In an effort to bring attention to this important new research on brain development and its implications for public policy, the Families and Work Institute initiated the Early Childhood Public Engagement Campaign. A White House Conference on Early Childhood Development and a television special, *I Am Your Child*, launched this campaign in early 1997. Another White House Conference on child care was held in October 1997. Politicians have been quick to notice that children's issues strike a special chord with Americans – hence the plethora of new initiatives aimed at the young.

All of this attention on children's issues is heartening in an era of budget reallocation, welfare reform, and the move to eliminate *Big Government*. However, the extent to which all this *talk* will be translated into *action* is yet to be determined. Regardless, this public attention has brought into focus an area of critical need in our society – quality child care. With the dramatic rise in the number of mothers with small children in the labor force, the need for child care services and the maintenance of quality programs throughout the nation cannot be denied (Katz, 1994). In response to this increased demand there has been a significant rise in the number of licensed child care centers and home-based child care providers – not to mention unregulated child care settings. Welfare reform legislation has also resulted in an increase in mothers needing child care services as they move into the labor force. Some welfare-to-work mothers have been encouraged to provide home-based child care to neighbors and relatives to help meet this increased demand for child care.

Thus, as the need increases and child care facilities spring up to meet the growing demand – both regulated and unregulated – the concern over quality becomes more pressing. A study conducted by Mathematica Policy Research for the U.S. Department of Education (1990) reports that the quality of care will be jeopardized with the trend of serving more children with fewer workers. More recent studies have determined that there is far too little good child care in the United States. Only 14% of center care, 12% of family child care, and an even lower percentage of infant care can be rated as good in this country (Galinsky et al., 1994; Helburn et al., 1995).

Given this state of affairs, research on child care and factors associated with quality care are very important, particularly if they have implications for public policy. State regulations play a key role in ensuring that programs comply with minimum standards regarding structural features and staff qualifications. But minimum standards related to child/staff ratios and educational level of staff are not enough. Other dimensions found to be associated with quality care are

classroom/caregiver dynamics (including caregivers' sensitivity and use of developmentally appropriate practice) and staff characteristics such as specialized education, training, and experience (Love, Schochet & Meckstroth, 1996; Barbour, Peters & Baptiste, 1995).

Education and training of child care workers are viewed as keys to improving classroom/caregiver dynamics and quality of care. But not all education and training are equally effective. The Center for Career Development in Early Care and Education at Wheelock College (newly named as the Wheelock College Institute for Leadership and Career Initiatives) has emphasized the importance of professional development programs for child care providers. The model developed by the Center focuses on linkages between education and training and development of new career opportunities for early childhood practitioners (Morgan et al., 1993). Having all training opportunities build on one another, offering incentives for practitioners to obtain training, and specifying a core body of knowledge for all early childhood care and education practitioners are particularly important elements of a model program for career development. Additionally, the Center posits that a comprehensive, coordinated system of training and education should include the following features: quality control over training content and trainers; a system for assessing training needs and offering training based on those needs; a system to make information about training easily accessible and widely distributed; a vehicle for tracking provider training; a linkage between training and compensation; and an expanded and coordinated plan for funding training – preferably through public/private partnerships.

The Study of Pennsylvania's Child Care/Early Childhood Development Training System

Pennsylvania has recognized the need to offer training opportunities for child care workers as a means to improve the quality of care. Training for various segments of the child care provider population has been available for over ten years. In 1992 a number of separate training programs were integrated into one system – *The Pennsylvania Child Care/Early Childhood Development Training System* (PA CC/ECD). The Pennsylvania Department of Public Welfare (DPW) was instrumental in the development of this training system and has supported the establishment of an affordable and flexible training system that is based on the principles of early childhood education and child development.

Pennsylvania's child care training initiative began in the early 1990s, as did other statewide training systems. States utilized the program quality portion of the Child Care and Development Block Grant (CCDBG)[1] to fund the

development and implementation of such training systems (Fiene, 1995). The PA CC/ECD Training System was implemented in January 1992 after lengthy public hearings regarding the Child Care and Development Block Grant. Child care advocates expressed a definite need for a comprehensive early childhood training system throughout the state. Advocates felt that a comprehensive training system was a cost-effective way to improve the quality of early childhood programs throughout Pennsylvania.

The PA CC/ECD Training System has experienced a number of system changes since 1992 and several evaluations with the presently described study as just one of these. For example, prior to 1992, the only training available to child care providers was through a home-based, voucher training program. This program proved to be very popular with providers because it gave them ultimate flexibility in the selection of training opportunities. As the training system evolved, the home-based voucher program became part of the overall PA CC/ECD Training System by 1995. However, this program provides very little structure related to course sequencing or focus on core competencies for child caregivers.

Four school-age technical assistance and capacity building projects also existed prior to 1992, but their major focus was not on training. After 1992 this changed and their focus turned to training. In 1995 the four school-age training projects were incorporated into the overall PA CC/ECD Training System. By 1995, all training for center-based, home-based, and school-age providers were under the umbrella of the PA CC/ECD Training System.

The Early Childhood Education Linkage System (ECELS), the program responsible for health and safety training and technical assistance to Pennsylvania's child care providers, presented the American Red Cross Child Care Course throughout the state from 1992 until 1995. In 1995 this course was incorporated into the PA CC/ECD Training System. This completed the coordination of all training activities related to early childhood and child care under the umbrella of PA CC/ECD with the exception of Head Start and early intervention training.

Since 1992, over 50,000 early childhood providers have received an average of three hours of training on an annual basis. The training opportunities offered to providers include workshops, seminars, videos, learn-at-home materials, conferences, satellite teleconferences, mentoring, vouchers for college course-work, and a number of other training opportunities outside the PA CC/ECD system. The PA CC/ECD Training System is a diverse system of training modalities and funding mechanisms. Several of the PA CC/ECD Training System components have been recognized as innovative. For example, the home-based voucher program and ECELS were recognized in *Making a Career*

of It, a report by the Center for Career Development in Early Care and Education at Wheelock College (Morgan et al., 1993). However, a concern was expressed that training opportunities, albeit comprehensive, were not coordinated to lead an individual on a career path. Therefore, several research studies have been undertaken to determine the effectiveness of the overall system and its implementation.

A Penn State University evaluation research initiated in 1992 helped to delineate the need for additional training opportunities for staff. The accumulative amount of training taken over three years was the key variable that predicted positive developmentally appropriate changes in the classroom (Johnson, 1994). However, this study left unanswered questions about what other factors and features of training are associated with child care quality.

There were overlapping concerns, although different purposes, for two studies initiated in 1996. Wheelock College (Stoney et al., 1997) conducted one study, an assessment of the various early childhood training systems in Pennsylvania, to determine how to coordinate the existing PA CC/ECD Training System with other training systems in an effort to develop a full-fledged early childhood career development system within Pennsylvania.

The other study initiated in 1996 is the one reported herein. Recognizing the importance of tracking the impact of this training system on the quality of care, this research was designed for dual purposes: to identify the training needs for Pennsylvania child care providers and to assess the impact of training and work environment on the quality of care in child care sites. In addition, the results of this research effort are compared to earlier Pennsylvania studies that examined the quality of child care. Within these overarching research goals, this study examined the specific research questions delineated below.

Research Questions Related to Training Needs

- What are the perceived needs for training? Do various provider groups have different needs (e.g. center teachers, center directors, group providers, and family providers)?
- What are the observed needs for training as indicated through the site observations of quality of care?
- What are the most important factors affecting the selection of training? How does the director impact this?
- How do providers evaluate the training? What are their perceptions regarding appropriateness, usefulness, applicability, and effectiveness of training in achieving learning objectives? What is their level of interest in training? And how do they think it applies to their work?

- What are the barriers to training? Are the barriers different for the various provider groups?

Research Questions Related to Quality of Care

- How has the quality of care in Pennsylvania child care changed over the years?
- What factors are significant in predicting the quality of care as observed in child care classrooms?
- To what extent do staff background characteristics (e.g. current education, educational goals, age, years in field, and salary) impact the classroom's quality of care?
- How are features of a caregiver's training experience related to classroom quality of care? To what extent does the level of training impact quality? What is the impact of the training's perceived appropriateness, usefulness, applicability, and effectiveness in achieving learning objectives?
- To what extent do teachers' perceptions of organizational climate impact the quality of classroom care?
- What is characteristic of the quality of work life in child care centers in terms of organizational climate, summary of worker values, overall commitment, how the environment resembles an ideal, the importance of educational goals and objectives, and the degree of influence of teaching staff?
- To what extent is a center's organizational climate associated with director background characteristics, aggregate teacher characteristics, site turnover, accreditation status, size of site, and average hours of training per site?
- To what extent is a center's overall quality of care associated with director background characteristics, aggregate teacher characteristics, organizational climate, and other site-level features (e.g. size of center, accreditation status, turnover rate, and average hours of training per year)?

This study seeks to answer these specific research questions. The following sections present a review of the literature related to professional development systems and factors associated with the quality of child care; an overview of the conceptual framework and methodology used to guide the study; a summary of the results; and the implications of the findings for public policy.

PROFESSIONAL DEVELOPMENT AND QUALITY OF CARE

Staff development research and studies on factors associated with the quality of child care always share the same long term goal, typically hold the same theoretical orientation, and often have variables in common within their

research designs. Ultimately, the goal is to bring about optimal experiences for children in child care. Descriptive and explanatory knowledge about early childhood inservice education or staff development and about program quality is needed to achieve this aim. Other related goals can be served at the same time when research adds to an understanding of quality experiences for children in child care, the value of inservice training for staff development, and the relationship between the two.

Staff Development Research

Current education literature addresses a number of issues related to the on-going professional development of teaching staff. One very important issue concerns the application of knowledge or the ability to transfer learning into practice. What are the most effective strategies used to guarantee the transfer of knowledge into practice? Numerous reasons are provided as to why staff who participate in educational programs do or do not apply in practice what is learned through education. The perception of program participants about the value and practicality of program content, the presence or absence of follow-up strategies, and supervisory attitudes toward changes required to apply what has been learned are all critical in the transfer of learning (Caffarella, 1994).

The value and practicality of a program implies that a training curriculum should be problem-centered and site-specific. According to Jorde-Bloom and Sheerer (1992), training programs should address real issues and concerns that participants face in their work setting on a daily basis; staff development efforts should facilitate interaction between colleagues; staff developers should "take into account the distinctly different orientations, needs, and interests" of program participants; and training content should focus on bridging the gap between theoretical ideas and the practical realities of the work setting. Jorde-Bloom (1998) also emphasizes the importance of staff becoming active participants in identifying program strengths and areas in need of improvement.

Discussions about the characteristics of effective staff development programs have resulted in some key themes. Holt-Reynolds (1995) maintains the importance of being aware of the rationales underlying the use of particular teaching practices. Rather than focusing on skill training as so many pre-service and in-service teacher development programs have done, staff development must be aimed at uncovering and dealing with lay beliefs, attitudes, behaviors, and decision-making strategies that teachers bring to the classroom.

VanderVen (1994) suggests a contextual model of professional development that enhances the current linear model, which is structural. The contextual model recognizes that early childhood is age-specific and is integrated across the domains of care, education, and development; the contextual model is generic and calls for situational application of multidisciplinary knowledge. VanderVen believes that professional development programs should facilitate constructivism and articulation of theory into practice. Knowledge is gained by doing, then reflecting and dialoguing about it – a constructivist model for learning (Jones, 1993).

In light of the contextual model, outcomes-based educational programs have also been recommended as more effective than the competency-based training programs of the past. Representing a paradigm shift, outcome-based programs focus on demonstrating application of knowledge in contextual settings and quality performance of integrated tasks. Simply acquiring knowledge and demonstrating competencies in isolation is not authentic and does not address the importance of making connections between pre-service training (development) and practice (performance).

Finally, as all this relates to teachers in child care settings, career mobility and advancement is seen as a *sine qua non* of professional development programs (Morgan, 1994). According to Morgan a professional development training system should include these components:

> **Make training count:** when substantial training of good quality is offered, it should carry college credit or be transformed to college credit that can be applied to certificate or degree programs.
>
> **Improve access to credit-bearing training** for practitioners who are already employed, particularly people of color and individuals from low-income populations.
>
> **Articulate programs:** accept the Child Development Associate (CDA) Credential to count toward an associate degree program; and allow the associate degree program to count in full toward a bachelor's degree program (Morgan, 1994, p. 138).

Given this background on staff development, we now raise the fundamental question: What constitutes a high quality professional development program? The National Association for the Education of Young Children (NAEYC) has provided leadership in professional development models for early childhood educators (Bredekamp & Willer, 1994). One of NAEYC's top priorities is improving professional preparation programs for the diverse staff who care for young children. A current NAEYC initiative, the National Institute for Early Childhood Professional Development, is a system designed to address the complexity of developing staff involved in the care and education of young children, improving the quality and consistency of professional pre-service and in-service programs, and linking them with improvements in practice.

Through the work of NAEYC, Willer (1994, pp. 17–19) has identified these principles from the work of Epstein (1993) and Modigliani (1993) that lay the foundation for effective professional development processes; they include:

- Professional development is an ongoing process.
- Professional development experiences are most effective when grounded in sound theoretical and philosophical base and structured as a coherent and systematic program.
- Professional development experiences are most successful when they respond to individuals' background, experiences, and the current context of their role.
- Effective professional development opportunities are structured to promote clear linkages between theory and practice.
- Providers of effective professional development experiences have an appropriate knowledge and experience base.
- Effective professional development experiences use an active hands-on approach and stress an interactive approach that encourages students to learn from one another.
- Effective professional development experiences contribute to positive self esteem by acknowledging the skills and resources brought to the training process as opposed to creating feelings of self-doubt or inadequacy by immediately calling into question an individual's current practices.
- Effective professional development experiences provide opportunities for application and reflection, and allow for individuals to be observed and receive feedback upon what has been learned.
- Students and professionals should be involved in the planning and design of their professional development program.

This attention to early childhood professional development comes at a critical time. Research on the background and skills of child caregivers paints a bleak picture. There is significant concern that child caregivers lack the skills, knowledge, and education to appropriately address the developmental needs of children. "Six out of seven child care centers provide care that is mediocre to poor. One in eight might actually be jeopardizing children's safety and development" (Children's Defense Fund, 1998).

The 1993 National Child Care Staffing Study cited low wages as one factor that accounts for poor quality care. Low wages make recruitment and retention of qualified personnel difficult. Another reason for the low quality of child care is inadequate staff training. "Staff education and training are among the most critical elements in improving children's experiences in child care" (Children's Defense Fund, 1998, p. 39). Regardless, many states do not require pre-service

training for teachers in licensed or regulated child care centers. Further, a majority of states require only 12 or fewer hours of annual training (Children's Defense Fund, 1994). Research has shown that a threshold for training to show some impact is around 18 hours (Howes, Smith & Galinsky, 1995).

Quality of Child Care Research

Reviews of the research on the factors related to child care quality (Phillips, 1987; Love et al., 1996; Chung & Stoney, 1997) group the studies into several categories. Some studies address global assessments of child care quality while others focus on the structural dimensions of quality or the dynamic measures of classroom quality. For our purposes, studies focusing on global assessments and structural dimensions of quality care are of particular importance.

Research from the late 80s (Phillips, 1987) identifies the following as key indicators of quality child care:

- The program is licensed.
- The child's interaction with the caregiver is frequent, verbal, and educational, rather than custodial and controlling.
- Children are not left to spend their time in aimless play.
- There is an adequate adult-child ratio and reasonable group size.
- The caregiver has a balanced training in child development, some degree of professional experience in child care, and has been in the program for some period of time.

More recent studies (Helburn, 1995; Phillips, Howes & Whitebook, 1992) confirm the importance of these indicators and identify other factors that are important. In addition, the following features of high-quality child care for preschool children include:

- **Space:** the indoor environment is clean, in good repair, and well-ventilated; classroom space is divided into richly equipped activity areas; fenced outdoor play space is equipped with swing, climbing equipment, tricycles, and a sandbox.
- **Children's activities:** most of the time children work individually or in small groups; children select many of their own activities and learn through experiences relevant to their own lives; caregivers facilitate children's involvement, accept individual differences, and adjust expectations to children's developing capacities.
- **Parent-caregiver interaction:** parents are encouraged to observe and participate in the program; caregivers talk frequently with parents about children's behavior and development.

For infants, the following signs of high-quality child care are in addition to the key indicators identified by Phillips (1987):

- Play materials are appropriate for infants and toddlers and stored on low shelves within easy reach.
- Daily schedule includes time for active play, quiet play, naps, snacks, and meals; it is flexible rather than rigid, to meet the needs of individual children; and the atmosphere is warm supportive, and children are never left unsupervised.
- Caregivers respond promptly to infants' and toddlers' distress; hold, talk, sing, and read to them; interact with children in a contingent manner that respects the individual child's interests and tolerance for stimulation.
- Parents are welcome anytime; caregivers talk frequently with parents about children's behavior and development.

In light of this overview, the underlying theme is the consistency in which the above factors, as indicators of quality, appear in the research findings.

Conceptual Framework

As previously indicated, staff development research and studies on the quality of child care share the same long term goal and typically the same theoretical orientation. The present study, with its twofold purpose of investigating the PA CC/ECD Training System with respect to user perceptions and the relationship between training and program quality, intersects with the current research literature. Accordingly, its long range purpose, its conceptual underpinnings, and its choice of variables and measures are consistent with previous work in these two areas.

A socio-ecological or systems theory perspective provides a framework for this study. This perspective emphasizes reciprocal transactions between individuals and their environments. Individuals' constructions (beliefs and attitudes) of their social environments, rather than some notion of objective reality, are central to personal adaptation and behavior (Bronfenbrenner, 1979; Lewin, 1935). Child care and training workshops are dynamic, psychological entities as well as physical ones. Providers' social role behaviors and interpersonal relations relevant to the care of children are associated with the totality of factors that constitute a particular child care site (i.e. overall staff and program characteristics). Likewise, providers' role behaviors and relations within child care (staff-staff, staff-child, staff-parents) that contribute to program quality are assumed to influence and be influenced by the PA CC/ECD Training System.

The selection of variables and measures involved in this study, the rationales for the choices, how the variables are conceptually organized, and how they are consistent with previous research are described in the remaining part of this section. These variables are organized into categories as depicted in Figs A and B relevant to the two major purposes of the present study.

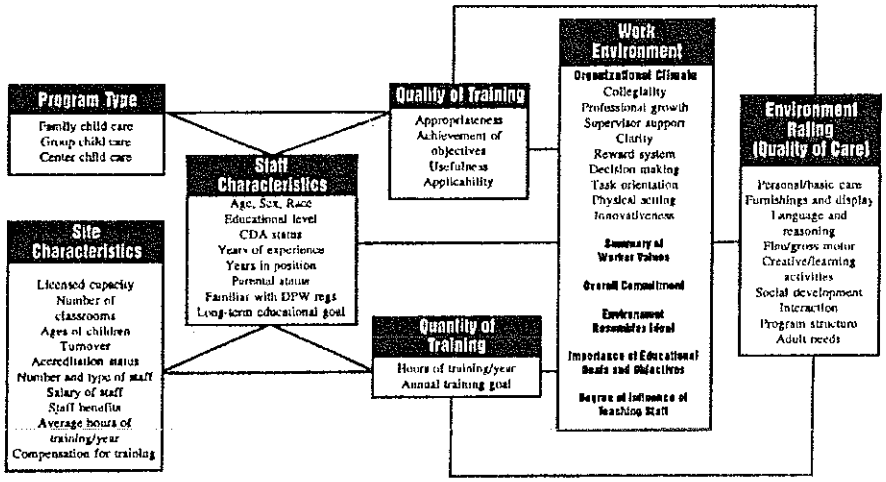


Fig. A. Quality of Care Conceptual Model.

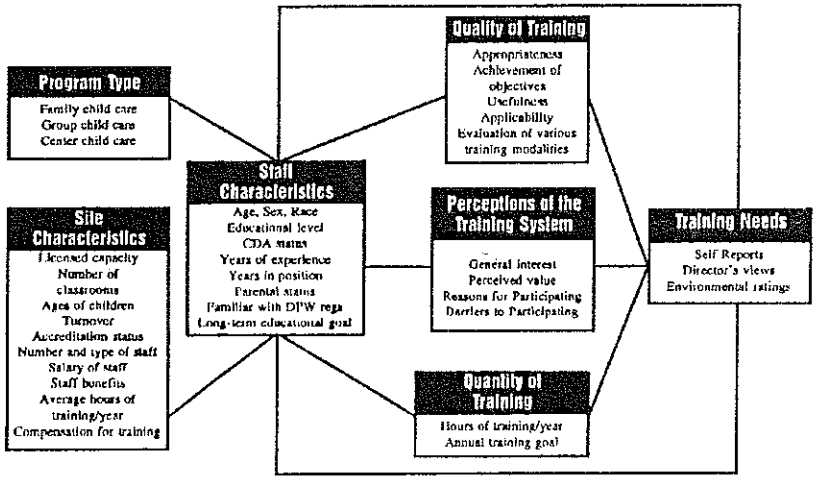


Fig. B. Training System Conceptual Model.

Figure A illustrates how the variables are conceptually organized and associated with levels of child care quality. Quality of child care is operationalized by scores from the Harms and Clifford Environment Rating Scales, while the various dimensions of a child care work environment are measured with Paula Jorde-Bloom's Early Childhood Work Environment Survey. Characteristics of the work environment are viewed as a primary set of intervening variables.

As measures of program quality, three separate environment rating scales were used in this study: the Early Childhood Environment Rating Scale (ECERS), the Infant/Toddler Environment Rating Scale (ITERS), and the Family Day Care Rating Scale (FDCRS). Although each scale has comparable areas that are assessed, the individual items composing each scale do vary depending on the type of child care site or classroom observed. Across each of these scales, the major areas that are assessed relate to furnishings and display; personal/basic care; language and reasoning; fine/gross motor activities; creative/learning activities; social development; interactions; program structure; and adult needs.

As indicators of the various dimensions of an early childhood work environment, the Early Childhood Work Environment Survey (Jorde-Bloom, 1988, 1998) includes a number of distinct conceptual areas. These areas include organizational climate, summary of worker values, overall commitment of staff to center, summary of how current work environment resembles the ideal, importance of educational goals and objectives, and degree of influence of the teaching staff. Organizational climate consists of the collective perceptions of staff regarding the dimensions of collegiality; emphasis on professional growth; degree of supervisor support; clarity of policies and procedures; fairness and equity of the reward system; degree of autonomy in decision making; goal consensus among staff; emphasis on task orientation; extent to which the physical setting facilitates programming; and degree of innovativeness.

Figure A shows an overview of the variables and how they are conceptually organized with respect to the investigation of factors related to the quality of child care. Although the left- to right-hand side ordering of the variable categories in Figure A suggests directionality of effects, it is important to keep in mind that this study is basically descriptive-correlational in nature. The non-experimental, cross-sectional nature of the research design precludes testing directional hypotheses. Program quality could be the cause or the effect of the other variable categories. Nevertheless, the original rationale for selecting this research design centered on the plausible assumption that higher levels of training of personnel in a program would go hand-in-hand with the quality of

care. In addition to organizational climate, certain staff and program characteristics were also expected to show a positive and statistically significant relationship with the quality of care.

The variable categories of program type and program variables shown on the far left-hand side of Figure A are best viewed as moderating variables. These variables suggest data-based comparisons but are not seen as predictors or mediators of quality (with the exception of accreditation status).

Figure B illustrates the relationships among variable categories pertinent to the identification of training needs and user perceptions of the training system. Of major interest, again, are the comparisons involving program type (family child care, group child care, and centers) and type of staff (directors versus teachers). The model included these specific areas: site characteristics, staff characteristics, quality of training, perceptions of the training system, and quantity of training. Training needs and interests were also identified. Questionnaires administered to child care staff were used to identify perceived training needs and interest areas via teacher and director self reports as well as directors' views of staff interests and needs. Needs (as opposed to interests) were also gleaned from information obtained from the environmental rating scales.

METHODOLOGY

As previously indicated, this is a cross-sectional study that collected data from child care sites throughout Pennsylvania. Child care sites were sampled and trained fieldworkers conducted site visits to observe the quality of care in classrooms and to administer questionnaires to child care staff. Specific details about the sampling process, fieldworker training, and data collection instruments are described in the following sections.

Sampling

A stratified systematic sampling process was utilized to identify child care sites for this study. At the time in which we drew the sample, there was a population of approximately 4,144 family child care sites, 590 group homes, and 3,067 child care centers (the *registered* family child care sites and *licensed* group homes and centers). Within each of these separate lists, we then created sampling frames stratified by geographic region. From these stratified lists, we randomly selected a number of child care sites of each type within the various

geographic regions of the state. Our sampling design called for a disproportionate number of sites in each category: 30 family child care homes, 30 group child care homes, and 60 child care centers.

We decided on these numbers for several reasons. First, limited resources and time would not allow us to conduct more than the 120 site visits. Second, to have a sufficient number of group homes to analyze, the number of group child care sites in the sample had to be disproportionate to what they represented in the population. Given the disproportionate nature of the sample, weights were used in any analysis that involved more than one type of child care site.

To encourage voluntary participation in this study, we implemented a number of procedures. First, we initially sent a letter to selected sites to explain the purpose of the study and the importance of the findings for *improving the child care training system in Pennsylvania.* In this letter we explained the advantages of provider participation in the study: receipt of a voucher to purchase children's books/toys from Gryphon House ($100 for centers and $50 for family and group homes); an opportunity to have an early childhood professional visit their site and provide some feedback regarding the environment rating scales; and receipt of a certificate acknowledging participation in the study. A follow-up call to the sites was made to further explain the study and encourage their participation. Once a confirmation was received from the site, a fieldworker was assigned to the site to establish a date for a site visit.

A number of the sites initially drawn for the sample were not included in the final total (some were no longer in business, some refused, some could not be visited due to scheduling difficulties). In each case, another randomly drawn site was used as a replacement. Our analysis of the data confirms that the resulting sample was not biased as a result of this replacement; the indicators of quality vary in the expected manner and other site level characteristics reflect known data. The final sample size consisted of 29 family child care homes, 30 group homes, and 60 centers.[2]

Fieldworker Identification and Training

The importance of having trained observers in a study of this nature cannot be underestimated. For this reason, we took care to identify fieldworkers who were familiar with the Harms and Clifford Environment Rating Scales or with the validation procedures used by the National Association for the Education of Young Children when conducting accreditation site visits. Once fieldworkers were identified, they were sent the training materials (video and manual) for the

Harms and Clifford Environment Rating Scales. Subsequently, a training session was held to review these materials and other procedures to be used in setting up and conducting the site visits. A fieldworker manual was prepared and distributed to everyone; monitoring of their work and progress was conducted from the research office; and inter-rater reliability was determined for a small percentage of each fieldworker's observations for the environment rating scales. The high inter-rater reliability scores indicate consistent use of the scales.[3] Furthermore, the overall quality of the data gathered by the fieldworkers attests to their ability.

Data Collection Instruments

The operationalization and measurement of two key areas in this study were previously discussed. Quality of child care was measured through the three Harms and Clifford Environment Rating Scales: ECERS, ITERS, and FDCRS. The scale value for each of the items assessed on these instruments ranges between 1 and 7, where 1 = inadequate, 3 = minimal, 5 = good, and 7 = excellent.[4]

The dimensions of the child care work environment were measured with Paula Jorde-Bloom's Early Childhood Work Environment Survey (ECWES). There are six separate conceptual areas assessed through this instrument, as identified earlier. For each of the *organizational climate* dimensions, a score of 0 to 10 is calculated by averaging the staff responses to 10 items for each dimension. The *summary of worker values* is indicated by the percentage of staff (0 to 100%) that identify an organizational climate dimension as one of the three most important aspects of their work. *Overall commitment* has a range of values between 0 and 10 where 0 = not committed and 10 = highly committed. Staff perceptions of *how their current work environment compares with their ideal* ranges between 1 = not like my ideal and 5 = like my ideal. The *importance of educational goals and objectives* is indicated by a priority ranking, ranging from 1 = low priority to 6 = high priority. Finally, the *degree of influence of teaching staff regarding organizational decisions* is assessed on a scale of 0 to 10 where 0 = very little influence and 10 = considerable influence.[5]

In addition to these standardized instruments, we developed a series of questions to gather background and training information from both directors and teachers within the child care sites. Although the questions were comparable for directors and teachers and across the type of sites, there were some items that applied only to one or the other. Given this, separate instruments were developed. One instrument was for family providers; one for directors of small sites (group homes and some small centers); one for directors of centers; one for teachers of small sites; and one for teachers from centers. In the end, we analyzed the data in terms of the type of site (family, group, or center) as well as type of respondent (director or teacher).

The comprehensive background information gathered with these questionnaires included:

- **Director and/or Teacher Background**: age, sex, race, education, years in early childhood field, years with current employer, employment status, salary, long-term educational goal, CDA status, and parental status.
- **Training Background and Assessment:** number of training hours in past three years, annual training goal, evaluation of training system (appropriateness, achievement of goals/objectives, usefulness, applicability), helpfulness of additional training, specialized training, assessment of specific training modalities, decisions about staff training, presence of staff development plans, compensation for training, factors affecting the selection of training, barriers to training, interest in training, and need for additional training in selected topic areas.
- **Site Characteristics:** age of children in facility, type of facility, licensed capacity, number of classrooms, change in licensed capacity in past year, number of paid staff, number of new staff in current year; presence of assistant director, and accreditation status.

FINDINGS

The results of this study address a number of specific research questions within the context of identifying training needs and assessing the factors associated with the quality of care. In presenting the results of the data analysis, we first provide an overview of the background data for each of the provider groups, followed by the findings for the specific research questions.

Background Data on Provider Groups and Child Care Facilities

The socio-demographic characteristics of the provider groups, their training background, and various site characteristics are summarized in Tables 1–3 to give a better understanding of the child care providers and facilities included in this study.

As Table 1 shows, the socio-demographic characteristics of this sample are typical of what we find in national statistics. As expected, the vast majority of providers are female. Their average age is between 34.8 and 45.8 with directors slightly older than teachers. A majority of providers are parents (between 59 to

Table 1. Background Characteristics of Provider Groups.*

Characteristic	Center Directors (N = 60)	Center Teachers (N = 561)	Group Directors (N = 30)	Group Teachers (N = 70)	Family Providers (N = 44)
SEX (% female)	98.3	98.0	100	95.7	93.2
AGE (mean)	41.6	34.9	45.8	34.8	38.8
RACE/ETHNICITY					
White	88.1	82.6	76.7	80.0	66.7
Black	8.5	14.4	20.0	17.1	31.0
Other	3.4	3.0	3.3	2.9	2.4
PARENTAL STATUS (% yes)	72.9	59.1	93.3	70.0	90.9
EDUCATION:					
High school	3.3	32.4	33.3	55.7	54.8
Some college	1.7	22.4	40.0	27.1	33.3
Associate degree	13.3	10.8	13.3	2.9	4.8
Bachelors degree	33.3	23.7	6.7	10.0	4.8
Some graduate	30.0	6.4	3.3	4.3	2.4
Masters degree	13.3	3.1	0.0	0.0	0.0
Post masters	3.3	1.1	3.3	0.0	0.0
Doctorate	1.7	0.0	0.0	0.0	0.0
YEARS IN EARLY CHILDHOOD FIELD (mean)	13.7	6.8	13.1	6.5	7.2
YEARS WITH PRESENT EMPLOYER (mean)	8.6	3.7	9.5	4.2	6.5
EMPLOYMENT STATUS:					
Full-time (35+ hrs)	93.3	62.6	93.3	40.6	80.5
Part-time	6.7	37.4	6.7	59.4	19.5
SALARY (approx. average)	$19,900/yr	$6.40/hr	$17,250/yr	$5.89/hr	$12,500/yr
BENEFITS					
Pension		18.5		2.1	
Vision		15.5		2.1	
Dental		32.6		2.1	
Health	N.A.**	48.7	N.A.	2.1	N.A.
Life insurance		23.5		0.0	
Paid maternity		3.2		0.0	
Disability		16.3		2.1	
Education reimbursement		25.9		17.0	

* Percentages are reported except where otherwise noted.
** N.A. = Question not asked of this provider group.

Table 2. Training Background of Provider Groups.*

Characteristic	Center Directors (N = 60)	Center Teachers (N = 561)	Group Directors (N = 30)	Group Teachers (N = 70)	Family Providers (N = 44)
LONG TERM EDUCATIONAL GOAL					
GED/High school	0.0	4.3	6.9	7.4	4.8
Non-credit adult education	1.8	5.8	6.9	13.2	9.5
Early childhood certification	0.0	12.2	13.8	16.2	9.5
Associate degree	1.8	6.8	13.8	4.4	16.7
College degree	5.4	15.9	13.8	8.8	14.3
Graduate degree	57.1	17.6	10.3	10.3	4.8
No long term goals	33.9	37.5	34.5	39.7	40.5
SEEKING CDA CERTIFICATE					
Yes	1.8	16.9	20.8	16.9	25.6
No	85.5	75.8	79.2	74.6	71.8
Already have	12.7	7.3	0.0	8.5	2.6
TRAINING IN PAST 3 YRS (mean hours)	43.1	18.5	40.3	20.5	20.2
ANNUAL TRAINING GOAL					
6 hours	40.7	67.3	31.0	63.9	53.7
12 hours	27.1	19.0	31.0	21.3	14.6
12+ hours	32.2	13.7	37.9	14.8	31.7
PERSONAL CAREER DEVELOPMENT PLAN (% yes)	N.A.**	55.1	N.A.	55.0	71.1

* Percentages are reported except where otherwise noted.
** N.A. = Question not asked of this provider group.

93%) with center teachers least likely to hold this status. Center directors hold the highest levels of education while group teachers and family providers have the lowest levels. The directors for both centers and group facilities have been in the field of early childhood education longer than the other provider groups (on an average of thirteen years for directors in comparison to approximately seven years for child care teachers and family providers). Center teachers have the least amount of time with their current employer when compared with their total number of years in the field. The vast majority (over 93%) of directors for

Table 3. Facility Characteristics.

Characteristic	Centers (N = 60)	Group Homes (N = 30)	Family Homes (N = 29)
Licensed Capacity (mean)	76.23	13.8	6.6
Number of Classrooms (mean)	4.95	2.1	N.A.**
Number of Children Enrolled (mean)	68.73	15.9	7.2
Age of Children (% of facilities with):			
Birth to 12 months	55.0	66.7	52.3
13–24 months	71.7	80.0	68.2
25–36 months	83.3	90.0	72.7
3–5 years	96.7	96.7	88.6
6–8 years	63.3	60.0	43.2
9+ years	48.3	33.3	22.7
Special needs (% yes)	61.7	16.7	11.4
Number of Paid Staff (mean)	10.93	3.6	N.A.
Assistant Director (% yes)	37.3	35.0	N.A.
Turnover Rate	0.22	0.31	N.A.
Accreditation Status (% yes)	26.3	10.0	22.5

** N.A. = Question not asked of this provider group.

both centers and group facilities are full-time, while a majority of group teachers (59.4%) are part-time. Regarding compensation, group teachers are also the lowest paid (approximately $5.89/hour), while center directors, on the average, earn the highest salaries – just under $20,000 per year. Benefits are also not prevalent in the field, although center staff are more likely to have some benefits than are home-based providers. Health benefits are the most common, yet less than half (48.7%) of the center teachers report having this benefit.

Table 2 summarizes the responses to questions that are indicators of the extent to which providers are motivated to pursue additional as well as higher levels of education and training. Over one-third of each provider group indicate

that they have no long-term educational goals. However, center directors are more likely to express a desire for higher education, with 57.1% indicating that a graduate degree is a long-term educational goal. As far as other child care training, a substantial percentage of providers do *not* have a Child Development Associate (CDA) certificate, but center directors (12.7%) are more likely to have the CDA than are other provider groups. Furthermore, directors of both centers and group facilities have, on the average, twice the number of training hours than do teacher and family provider groups. Over the past three years, directors averaged over 40 hours of training, while teachers and family providers averaged around 20 hours (just slightly higher than what is required to meet the state regulations of 6 hours per year). The emphasis on only meeting state requirements is further evidenced by the responses from providers when asked to indicate their annual training goal. A majority in each provider group, except group directors, indicates that completing 6 hours is their goal. Both directors of centers and group facilities, as well as family providers show greater interest in education/training beyond the minimum required. The final indicator of a provider's educational interest and motivation is revealed when asked, "Do you have a plan for your individual career development in early childhood care and education?" More than half of teachers and family providers indicate they have a personal career development plan. This appears to be a higher percentage than expected, given the responses to the other questions related to educational interest and motivation. However, this question did not ask if the plan was written and/or formalized; as such, the responses to this question may include individuals who at a minimum have *thought* about their plans for further training and education.

Characteristics of the sample sites are shown in Table 3. On average, centers have a licensed capacity for 76 children, just under five classrooms, and an enrollment of 69 children. While centers have fewer enrolled children than they are licensed for, both group and family homes have more (probably due to school-age children or children who might not be enrolled for full-time child care). As for the age of children served, children age two through five are most likely to be enrolled in child care. Special needs children are most likely served by centers, not group or family homes. Staffing patterns are also consistent with common knowledge – centers average just under eleven paid staff, while group homes average just fewer than four. Approximately one-third of both centers and group homes have an assistant director. The turnover rate, indicated by the ratio of new staff to total number employed, is slightly higher for group child care (0.31) than it is for centers (0.22). Centers are most likely to be accredited (26.3%) while group homes are least likely (10%).

Training Needs and Perceptions of Current Training System

Perceived Training Needs

The survey instrument distributed to child care staff asked both directors and teachers to identify the need for training in specified training topics.[6] They were also asked to base their assessment on the *need for training* for child care providers, not just the importance of the topic alone. Table 4 summarizes the responses of these provider groups: center directors, center teachers, group providers,[7] and family providers.

In examining Table 4, if we rank order the topics in terms of perceived priority, we see that the general topic area of **supervision, motivation, and discipline/guidance of children** is considered an area of very serious need for training. This topic is ranked at the top for all provider groups except family providers who rank it as the second most needed area of training. Family providers identify **fostering social development (e.g. dealing with conflict)** as the top priority for training. These two topics are closely related in that they both deal with the issue of behavior management – a serious concern for providers that is repeatedly expressed by them. A concern over behavior management is further supported by the data. All provider groups rank both topics as either first or second priority for training.

When all topics are listed in rank order (from topics that are a very serious need to topics that are not a priority), there is a high degree of consistency across all provider groups – for center directors and teachers as well as home-based providers. The four areas consistently ranked as priority training topics are:

- supervision, motivation, and discipline/guidance of children
- social development (dealing with conflict)
- child development
- developmentally appropriate practice

In addition, family providers identify **nutrition** and **infant/child development** as important areas of training. Regardless of relative importance and rank order position, providers view none of the training topics specified on the research instrument as *unimportant*. The average scale value for these topics ranged between 1.28 and 2.53–thus, there is no topic area that is viewed as *not a priority* for training.

Training Needs as Observed via the Environment Rating Scales

In addition to the identification of training needs through the self-reports of child care staff, we are able to provide a more objective measure via the Harms

Table 4. Perceived Need for Training in Selected Topic Areas.*

Training Topic	Center Directors (N = 60)	Center Teachers (N = 546)	Group Providers (N = 100)	Family Providers (N = 44)
Child care business, management	2.19 (16)	2.36 (17)	2.43 (19)	2.03 (17)
Child care program development	1.77 (8)	1.87 (9)	2.04 (12)	1.67 (9)
Child development	1.63 (4)	1.57 (3)	1.72 (2)	1.59 (5)
Child/staff health	2.05 (14)	1.77 (5)	1.89 (7)	1.80 (12)
Development appropriate practice	1.43 (3)	1.65 (4)	1.81 (4)	1.66 (8)
Emergent literacy, children's literature or literacy-based socio-dramatic play	1.84 (9)	2.04 (15)	2.05 (13)	1.92 (14)
Emergent numeracy, science for young children	1.74 (6)	1.92 (11)	2.12 (16)	2.00 (16)
Fostering social development (e.g. dealing with conflict)	1.39 (2)	1.56 (2)	1.76 (3)	1.44 (1)
Inclusive/special needs education issues	1.74 (7)	1.78 (6)	2.05 (14)	1.69 (10)
Infant/ Toddler child development/programming	1.88 (10)	1.78 (7)	1.89 (6)	1.51 (3)
Multicultural, gender sensitivity in programming for young children	1.93 (11)	2.02 (14)	2.01 (10)	1.95 (15)
Music, dance, movement for young children	1.98 (13)	1.93 (12)	2.02 (11)	1.89 (13)
Nutrition	2.27 (17)	1.99 (13)	1.88 (5)	1.57 (4)
Personal care routines (naptime, toileting, grooming)	2.46 (19)	2.12 (16)	2.11 (15)	1.60 (6)
Play	1.97 (12)	1.91 (10)	1.96 (8)	1.71 (11)
Supervision, motivation discipline/guidance of children	1.28 (1)	1.51 (1)	1.55 (1)	1.46 (2)
Working with parents/community services	1.73 (5)	1.85 (8)	2.00 (9)	1.64 (7)
Statewide conference on multiple topics	2.48 (20)	2.53 (20)	2.48 (20)	2.22 (20)
Regional conference on multiple topics	2.41 (18)	2.53 (19)	2.36 (18)	2.18 (19)
Mentoring, multiple topics	2.18 (15)	2.45 (18)	2.30 (17)	2.08 (18)

* Perceived need is indicated by the mean score for the provider group on a scale of 1 = a very serious need, 2 = important but not critical, 3 = more would be helpful, and 4 = not a priority; in addition, a rank order of training needs for each provider group is indicated in parentheses.

and Clifford Environment Rating Scales. By identifying areas where child care sites are weak (e.g. where average scores are less than 5), we can specify needed training topics. Table 5 summarizes the average scores for the individual items included in each of the environment rating scales (FDCRS, ITERS, and ECERS).

In analyzing the set of individual items on the three different Harms and Clifford Environment Rating Scales, we see that there are a number of areas that receive a very low rating – below a scale value of 4.00. Items rated this low indicate areas where special attention should be placed in the design and delivery of training. Across all three scales – FDCRS, ITERS, and ECERS – these items are consistently rated low: **cultural awareness, personal grooming, dramatic (pretend) play,** and **sand and water play**. Furthermore, these areas are rated low in two out of the three environment rating scales: **displays for children** (FDCRS and ITERS), **space alone** (FDCRS and ECERS), **helping infants/toddlers understand language** (FDCRS and ITERS), **art** (ITERS and ECERS), and **blocks** (FDCRS and ITERS).

Overall, the ECERS reveals fewer areas of serious concern (only 16% of the items on this scale have a score below 4.00), while the ITERS reveals the most (46% of the ITERS' items have a score below 4.00). This is consistent with national data on the environment rating scales (Phillips, 1987; Scarr, 1994). Indeed, if we compare the overall average score for each scale, (FCDRS = 4.47; ITERS = 4.26; ECERS = 4.63), the ITERS has the lowest average score. This indicates a need for particular focus on infant/toddler training, a finding that is consistent with anecdotal evidence and comments.

On the other end of the continuum, there are a number of items on each of these scales that score above 5.00, indicating an assessment in the *good* range. Keeping in mind that there are not comparable items across all three scales,[8] we consistently see these areas rated highly: **nap/rest time, discipline/supervision, provision for parents, informal use of language with infants/toddlers,** and **health practice and/or policy**. Consistent with our analysis of the items rated poorly, the ECERS fares the best. It has the highest percentage of items (38%) receiving a score above 5.00 (ITERS only has 26% of the items scoring above 5.00, while FDCRS has 23%). There are several points of interest in our examination of these ratings. First, it is noteworthy that the health area received such a positive evaluation. No doubt, concerns about health and safety are of primary importance to parents as well as officials who regulate child care. Second, the high rating for discipline/supervision is paradoxical given the consistent identification of this area by caregivers as one in which they most need training. This illustrates that caregivers are performing better in this area than they perceive; it also reveals that discipline/supervision

Table 5. Average Score on Individual Environment Rating Scale Items.

Scale Item	FDCRS (N = 67)*	ITERS (N = 36)	ECERS (N = 57)*
Furnishings and Display	**4.10**	**4.09**	**4.57**
Furnishings for routine care	4.87	4.53	5.75
Use of furnishings for learning activities	–	4.44	4.14
Furnishings for relaxation and comfort	4.71	3.69	4.13
Room arrangement	–	3.86	4.74
Child-related display	3.01	3.92	4.08
Indoor space arrangement	4.11	–	–
Active physical play	4.55	–	–
Space to be alone			
a. Infants/toddlers	3.43	–	–
b. 2 years and older	3.76	–	–
Personal/Basic Care	**4.84**	**4.66**	**4.59**
Arriving/departing	6.15	5.56	4.71
Meals/snacks	4.72	3.93	4.40
Nap/rest	5.07	5.10	5.64
Diapering/toileting	4.13	3.62	5.05
Personal grooming	3.78	3.71	3.23
Health practice	5.17	4.21	–
Health policy	–	5.63	–
Safety practice	4.86	5.40	–
Safety policy	–	5.46	–
Language and Reasoning	**4.54**	**4.37**	**4.82**
Informal use of language			
a. Infants/toddlers	5.01	5.00	–
b. 2 years and older	4.90	–	4.89
Helping children understand language			
a. infants/toddlers (books & pictures)	3.47	3.74	–
b. 2 years and older	4.29	–	5.02
Helping children use language	4.45	–	4.99
Helping children reason	4.35	–	4.36
Fine/Gross Motor	**N.A.**	**N.A.**	**5.11**
Fine motor			5.41
Supervision (FM)			5.10
GM space			5.02
GM equipment			4.66
GM time			5.21
Supervision (GM)			5.44

Table 5. Continued.

Scale Item	FDCRS (N = 67)*	ITERS (N = 36)	ECERS (N = 57)*
Creative/Learning Activities	**4.12**	**3.39**	**4.46**
Eye-hand coordination	4.48	4.67	–
Active physical play	–	3.53	–
Art	4.08	3.81	3.81
Music and movement	4.76	4.19	5.20
Sand and water play	2.60	3.07	3.75
Dramatic (pretend) play	3.74	3.07	3.62
Blocks	3.88	3.21	4.44
Use of T.V.	4.19	–	–
Schedule of daily activities	4.59	–	4.93
Supervision of play indoors and outdoors	4.79	–	5.51
Cultural awareness	–	1.75	–
Social Development	**4.72**	**N.A.**	**4.20**
Tone	5.73		5.34
Discipline	5.59		–
Cultural Awareness	2.85		2.96
Space (alone)	–		3.60
Free play	–		4.53
Group time	–		4.33
Exceptional provisions	–		4.69
Interaction	**N.A.**	**4.98**	**N.A.**
Peer interaction		4.93	
Adult-child interaction		4.99	
Discipline		5.01	
Program Structure	**N.A.**	**4.53**	**N.A.**
Schedule of daily activities		3.75	
Supervision of daily activities		4.71	
Staff cooperation		4.98	
Provisions for exceptional children		5.30	
Adult Needs	**5.17**	**4.28**	**4.80**
Adult personal needs	–	3.31	4.11
Opportunities for professional growth	4.79	3.57	4.50
Adult meeting area	–	4.94	5.10
Provisions for parents	–	5.35	5.51
Relationships with parents	5.37	–	–
Balancing personal and caregiving responsibilities	5.28	–	–

* This is the weighted N since there were observations made in more than one type of child care (i.e. family, group, or center).
** N.A. = Question not applicable for this environment rating scale. Spaces where there are no applicable scores are indicated by "–".

is perhaps one of the most challenging areas in child care and something for which caregivers think they need constant help and support.

Selection of Training

Providers were asked to indicate the importance of a number of factors in their selection of training.[9] In Table 6 we see, again, there is a high degree of consistency across all provider groups. Providers indicate that their selection is based primarily on their **interest in a topic** and if a topic **helps in understanding children**. Furthermore, center staff (directors and teachers) identify **opportunities for professional development** as important. All provider groups, except center directors, rank **training that offers practical solutions** within the top five on their list of factors that are important in the

Table 6. Factors Affecting the Selection of Training.*

Selection Factors	Center Directors (N = 60)	Center Teachers (N = 546)	Group Providers (N = 100)	Family Providers (N = 44)
Location/convenience	1.19 (5)	1.27 (5)	1.29 (3)	1.08 (3)
Session length	1.51 (10)	1.70 (12)	1.71 (11)	1.54 (10)
Meet state requirements	1.24 (7)	1.40 (8)	1.33 (5)	1.34 (6)
Quality of previous training	1.41 (8)	1.39 (7)	1.49 (8)	1.49 (8)
Cost of training	1.53 (11)	1.66 (11)	1.50 (9)	1.58 (11)
Scheduled times of training	1.13 (4)	1.31 (6)	1.36 (6)	1.03 (1)
Interest in topic/contents	1.10 (1)	1.15 (2)	1.15 (1)	1.21 (4)
Networking opportunities	1.75 (12)	1.81 (13)	1.82 (13)	1.66 (12)
Training organization	1.76 (13)	1.65 (10)	1.72 (12)	1.69 (13)
The trainer	1.48 (9)	1.51 (9)	1.66 (10)	1.54 (9)
Offers practical solutions	1.19 (6)	1.25 (4)	1.32 (4)	1.24 (5)
Helps understand children	1.12 (3)	1.09 (1)	1.16 (2)	1.08 (2)
Professional development	1.10 (2)	1.22 (3)	1.37 (7)	1.35 (7)
Sent by director	N.A.**	1.91 (14)	1.87 (14)***	N.A.**

* Importance of factors in the selection of training is indicated by the mean score for the provider group on a scale of 1 = a very important, 2 = somewhat important, and 3 = not important. In addition, the rank order of the factors in terms of importance is indicated in parentheses.
** N.A. = Not asked of this provider group.
*** This represents the response from the group teachers only.

selection of training. Center directors mention **scheduled times for training** as important. Similarly, home-based providers mention **scheduled times for training** or **location/convenience** as important factors affecting their selection of training. These priority rankings are congruent with the role responsibilities of center directors and teachers and home-based providers. Directors are responsible for the scheduling of staff at their child care facility, while home-based providers must participate in training that is offered during nonbusiness hours – hence the importance of when training is scheduled. On the other hand, teachers deal with the day-to-day child care activities for which they want practical guidance.

However, all of the factors that might affect selection of training are considered at least *somewhat important* by child care providers. (Note that none of the factors have a mean score above 2.0.) But, in terms of priority, the factors having the least priority across all provider groups are **networking opportunities, training organization, session length, cost of training,** and **trainer**. The relative unimportance of the cost of training is to be expected. The Pennsylvania child care training system provides training opportunities at no cost, or for a minimal registration fee, therefore cost is not a critical issue. As for the trainer and training organization, it may be that providers are satisfied with current training organizations and trainers (as expressed elsewhere in these data and also in the participant evaluation forms completed for each training session). These data indicate the trainer or training organization may not be as important as other factors in the selection of training.

What is of interest is the relative unimportance of **networking opportunities**. Anecdotally, we often hear that the opportunity to meet and talk with other child care providers is highly valued. On closer inspection, we see that family providers (the provider group that is most isolated from peers), are more likely to consider networking opportunities as important than are the other provider groups. Half of the family providers indicate that networking is a very important factor in their selection of training, while only around one-third of the other provider groups indicate this.

Center teachers also were asked to indicate the importance of **being sent by the director** in selection of training. In comparison to other factors, **being sent by the director** is relatively unimportant – it is ranked at the bottom. Regardless, approximately one-third of the teachers in centers indicate that **being sent by the director** is a *very important* factor. Ideally, directors of child care centers should be working with staff to establish professional development plans that meet the individual needs of workers. However, this question, as asked, does not identify the reason why a director sends staff to a particular training – i.e. whether the selected training corresponds with professional development needs of staff or whether training is offered at a convenient time and place.

When directors were asked about how decisions are made regarding staff training, just under half of center directors (46.6%) indicated that they "guide the selection but the staff make the final decision." Whereas, in the group child care situation, 60% of group directors indicated this.

Having a personal plan for career development is related to this decision-making process and the selection of child care training. Whether or not staff have such plans was assessed by asking directors "What percentage of your child care staff have personal plans for career development in early child care and education?" Center directors, on average, indicate that over half (51.9%) of staff have personal plans. In group child care, directors report that only 24.2% of staff have personal career development plans. A much higher percentage (71.1%) of family providers have a plan for personal development as a child care provider. This question does not ask for specific details, therefore the interpretation of what constitutes a *plan* probably varies considerably.

Evaluation of Training

The appropriateness, usefulness, applicability, and effectiveness of training in achieving learning objectives, as perceived by providers, were used as one means to evaluate the training system. Providers were asked for an *overall* assessment of training in which they participated, knowing that many have participated in a number of training opportunities over the past few years (see Fig. 1).

A majority of all provider groups consider the training to be either very appropriate or somewhat appropriate. In comparison, group providers are more likely than the others to consider the training appropriate (94.6%), while family providers are least likely (89.2%).

Providers also positively assess the usefulness of training. More than four-fifths of each provider group consider the training somewhat or very helpful. Comparatively, home-based providers are most likely to consider the training useful (group = 89.1% and family = 89.2%), while center directors are least likely (87.5%).

The applicability of training (or the knowledge and skills learned) to the work environment should be an important feature of any training system if it is to have an impact. It is impressive that a substantial majority of providers (over 90%) indicate that they could apply *all, a lot*, or *some* of what they learned in the training to current work.

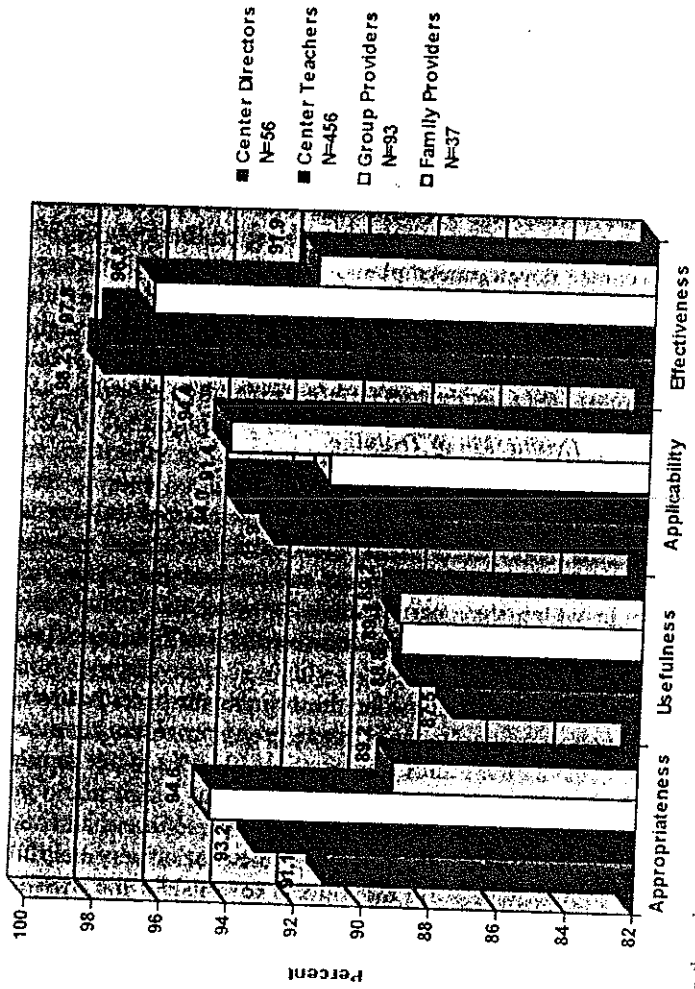


Fig. 1. Perceived Appropriateness, Usefulness, Applicability, and Effectiveness of Training.*

* For each factor, these data represent the percentage of providers who indicate that:

- The training was "very appropriate" or "somewhat appropriate" (*Appropriateness*)
- The training was "very helpful" or "somewhat helpful" in their work (*Usefulness*)
- They can apply "all," "a lot," or "some" of what the learned in training (*Applicability*)
- The training goals were "achieved" or "somewhat achieved" (*Effectiveness*)

To assess the perceived effectiveness of training, providers were asked to indicate the extent to which the training goal(s) were achieved, that is, the extent to which they learned the material.[10] As with applicability of training, almost all providers (over 90%) respond that they learned at least some of the material. A slightly smaller percentage of family providers indicate this (91.9% vs. over 96% for the other provider groups).

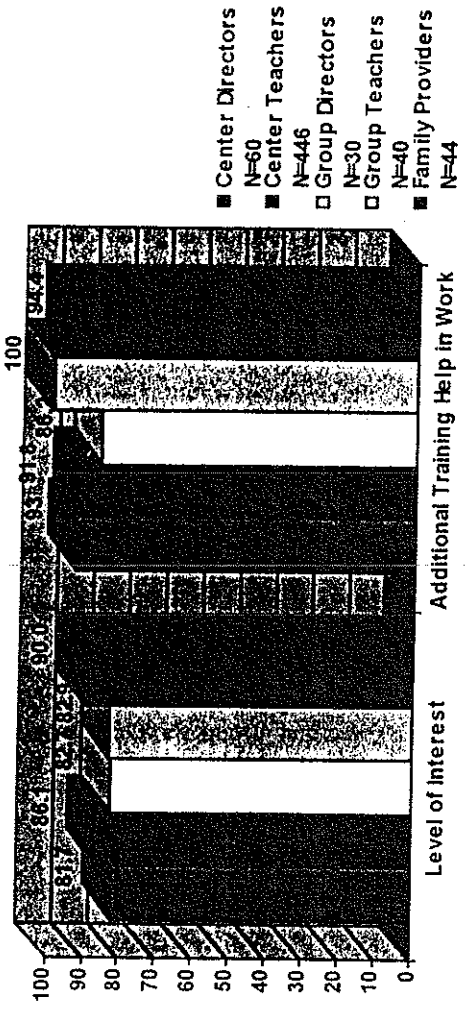
Overall, the training system is viewed positively by provider groups, as evidenced by response to questions about appropriateness, usefulness, applicability, and effectiveness in achieving learning objectives. The providers consider the training appropriate for their level of knowledge and skill, find it helpful in their current work, indicate they are able to apply what they have learned, and feel training goals have been achieved.

This positive assessment also corresponds with their response when asked about level of interest in training and if more training would be (see Fig. 2).[11] As with the other evaluative factors, the level of interest is high among teachers, with over 80% of center and group teachers indicating they are either *interested* or *very interested* in taking training. Furthermore, directors are on target in assessing levels of interest of their staff. As further evidence of the positive evaluation of the training by providers, a substantial percentage (86–100%) indicate that attending more workshops or training will help them in their work.

A final evaluative measure used in assessing the current training system asked about the perceived helpfulness of the various training methods used in the Pennsylvania Child Care/Early Childhood Development Training System. Only directors and family providers were asked about this.[12] Table 7 summarizes the responses for center directors, group directors, and family providers. **On-site training** ranks as the most helpful method by the directors of centers and group homes, while family providers rank it as second most helpful. Center directors and family providers also positively assess **workshops**. While **satellite** and **video** methods of training may be cost effective and efficient in reaching providers in more rural areas, both these methods of training are viewed as less helpful than other methods. Interestingly, both family providers and group directors express a more positive view of these two methods than do center directors.

Barriers to Training

Several factors may limit child care providers from attending training. Providers were asked to indicate the importance of a number of factors that might prevent them from attending training or workshops (see Fig. 3).



* For *level of interest, numbers represent:*

- *The percentage of family providers, group teachers, and center teachers who indicate they are "interested" or "very interested" in taking workshops or training.*
- *The percentage of center directors and group directors who indicate their staff are "interested" or "very interested" in taking workshops or training.*

For helpfulness of additional training in one's work numbers represent:

- The percentage of providers who indicate that attending additional workshops of training will "somewhat" or "very much" help them in their work.

Fig. 2. Level of Interest and Perceived Helpfulness of Additional Training.*

Table 7. Perceived Helpfulness of Training Methods.*

Training Method	Center Directors (N = 60)	Group Directors (N = 30)	Family Providers (N = 44)
Workshop	1.26 (2)	1.52 (2)	1.16 (1)
Satellite	2.33 (6)	2.07 (6)	1.84 (6)
Video	1.92 (5)	1.56 (5)	1.60 (4)
On-site Training	1.21 (1)	1.39 (1)	1.42 (2)
Conference	1.57 (4)	1.48 (3)	1.55 (3)
Mentoring	1.38 (3)	1.47(4)	1.78 (5)

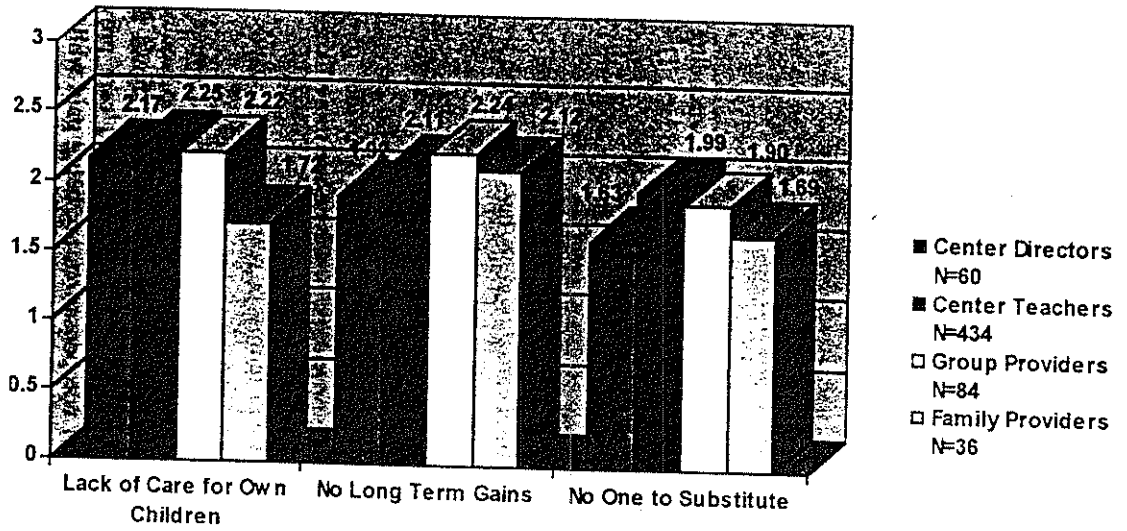
* Perceived helpfulness is indicated by the mean score for those who have experienced a method of training, on a scale of 1 = very helpful, 2 = somewhat helpful, and 3 = not helpful. In addition, a rank order of the methods is indicated in parentheses.

Lack of child care for their own children while attending training is considered important as a barrier only by family providers. This is another expected finding since family providers are most likely to have to attend training outside of work hours, necessitating the need to find care for their own children while attending training.

Contrary to what we might expect given the current lack of status and minimal reward system for child care providers, having **no long term gains or rewards** for training is not considered a very important barrier by provider groups. However, center directors, in comparison to other provider groups, were more likely to perceive this as an important barrier.

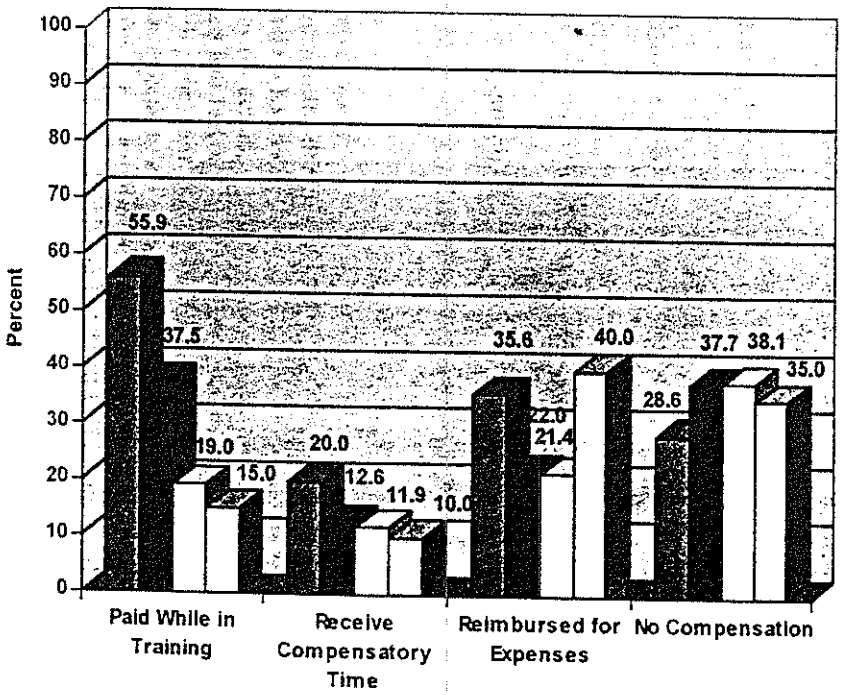
Having **no one to watch the children during the child care hours** is seen as the most significant barrier to training by all provider groups. Center directors and family child care providers, however, are more likely to indicate this as a very important factor than are teachers and group providers. This is to be expected, since directors and family providers are responsible for finding substitutes in their child care settings.

In identifying other barriers to training, we can also examine the reward system attached to training. Providers were asked, "Do you receive any compensation for attending relevant training?" Figure 4 shows the types of compensation received by the center and group child care providers. Few providers receive any type of compensation, i.e. being paid while in training, receiving compensatory time, or being reimbursed for expenses. Center directors appear to fare better than other provider groups – 55.9% indicate that they are paid while in training. This can be interpreted that they are more likely to attend relevant training during the work hours.



* Importance of barrier is indicated by the mean score of the provider group on a scale of 1-very important, 2 = somewhat important, and 3 = not important.

Fig. 3. Barriers to Training.*



* Percent indicating "yes" for each of these types of compensation that they receive for relevant training.

Fig. 4. Compensation for Attending Relevant Training.*

The Work Environment of Child Care Facilities

The quality of work life is not only an indicator of one type of quality within a child care environment, but it is an important factor that can influence the overall quality of care for young children, as well. As stated previously, we have used Jorde-Bloom's Early Childhood Work Environment Survey (ECWES) to assess a number of dimensions of the work environment within child care centers. The ECWES[13] includes measurements of:

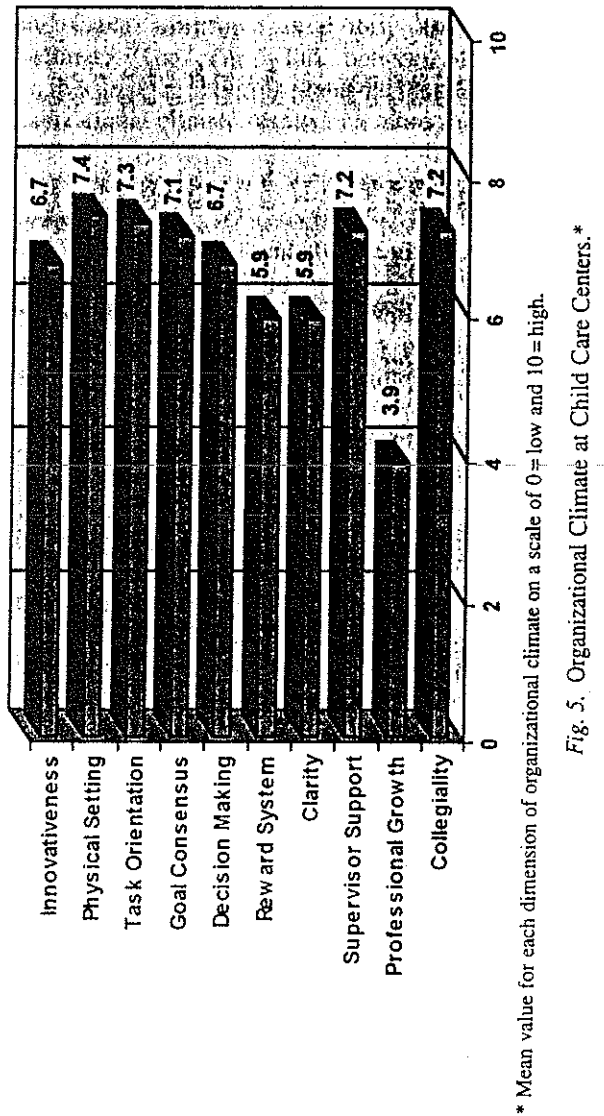
- Ten dimensions of *organizational climate* (collegiality, professional growth, supervisor support, clarity, reward system, decision making, goal consensus, task orientation, physical setting, and innovativeness);
- The importance that staff assign to each dimension (*summary of worker values*);
- The staff's *overall commitment* to the center;
- How the current *work environment resembles the staff's ideal*;
- The importance of various *educational goals and objectives*;
- The *degree of influence of the teaching staff* regarding various organizational dimensions.

Organizational Climate

The ten dimensions of organizational climate are shown in Fig. 5. In analyzing the scale values, which can range between 0 and 10, we see that the dimension of **professional growth** ranks at the bottom (3.94), followed by **reward system** (5.88) and **clarity** (5.91). This indicates that overall, staff in centers do not perceive many opportunities for professional growth, they do not feel that pay and fringe benefits are fair and equitably distributed, and they feel that communication about policies and procedures is unclear. These results are similar to national data where professional growth opportunities and reward systems are evaluated poorly by most child care staff (Jorde-Bloom, 1996).

It is important to determine what factors, if any, are associated with these ten dimensions of organizational climate. Table 8 provides a summary from an analysis of relationships between each of the organizational climate dimensions and a series of factors. A number of **director characteristics** are examined first. In addition, **characteristics of teachers** (aggregated per site) and overall **site characteristics** are analyzed.

Overall, the average age of teachers is significantly related to all dimensions of organizational climate. Centers with older workers have a more positive work environment. Correspondingly, two other factors that are closely related



* Mean value for each dimension of organizational climate on a scale of 0 = low and 10 = high.

Fig. 5. Organizational Climate at Child Care Centers.*

Table 8. Factors Associated with Organizational Climate.

Factor	Collegiality	Professional Growth	Supervisor Support	Clarity	Reward System	Decision Making	Goa Consensus	Task Orientation	Physical Setting	Innova-tiveness
Director Background										
Age	−0.005	0.27*	−0.09	0.02	0.10	−0.14	0.05	0.03	0.11	0.05
Educational level	0.01	0.17	0.15	0.08	0.14	0.03	0.02	0.17	0.14	0.14
Years in field	0.08	0.44***	0.20	0.18	0.30*	0.24	0.19	0.26*	0.30*	0.26*
Years in present job	0.26*	0.40**	0.23	0.17	0.40**	0.19	0.12	0.26*	0.30*	0.14
Full-time/part-time	−0.23	−0.08	−0.06	−0.18	−0.32*	0.03	−0.13	−0.11	−0.03	−0.16
Salary	−0.14	0.34**	−0.07	0.13	0.15	0.04	−0.12	0.03	0.03	−0.00
Long term educational goal	0.06	0.20	0.07	−0.02	0.01	−0.12	−0.03	0.00	−0.06	0.03
CDA Status	−0.13	0.02	−0.05	0.15	−0.12	0.02	0.04	−0.15	−0.03	0.13
Training hours/year	−0.01	0.18	−0.05	−0.08	0.08	−0.01	−0.02	0.12	0.07	0.06
Annual training goal	−0.20	0.18	−0.14	−0.05	−0.06	−0.14	−0.07	−0.11	−0.17	0.02
Aggregate Teacher Characteristics										
Average age of teachers/site	0.39**	0.45***	0.29*	0.28*	0.43***	0.26*	0.34**	0.38**	0.32**	0.29*
Average educational level	−0.03	0.25	0.04	0.16	−0.07	0.01	−0.03	0.09	−0.08	0.00
Average years in field	0.24	0.36**	0.18	0.30*	0.27*	0.12	0.17	0.18	0.04	0.10
Average years in present job	0.36**	0.38**	0.28*	0.26*	0.28*	0.25	0.26*	0.29*	0.17	0.20
% of teachers working full-time	0.04	0.10	−0.13	−0.04	0.00	−0.07	0.15	−0.11	−0.05	0.09
Average teacher salary	0.15	0.53***	0.13	0.31*	0.27*	0.15	0.23	0.29*	0.18	0.24
Average long-term educational goal	−0.10	−0.06	−0.07	−0.08	−0.13	−0.13	−0.02	−0.14	0.05	−0.09
% teachers with annual goal 12+ hrs	0.01	0.43***	−0.01	−0.02	−0.01	−0.06	0.06	0.05	0.08	0.14
Average training hours/year	−0.09	0.11	0.23	−0.22	0.09	−0.18	−0.13	−0.10	−0.01	−0.20
Average teacher interest in training	−0.00	0.00	−0.14	−0.06	−0.03	−0.07	−0.09	−0.11	−0.08	−0.06
Site Characteristics										
Licensed capacity	−0.08	0.18	0.07	−0.11	0.08	0.02	−0.11	0.01	0.22	0.11
Number of classrooms	−0.09	0.33**	−0.05	0.05	0.02	0.11	0.00	0.06	0.11	0.15
Turnover	−0.31*	−0.33*	−0.40**	−0.26	−0.20	−0.30*	−0.39**	−0.24	0.28*	−0.26
Accreditation status	−0.18	−0.33**	−0.16	−0.24	−0.36**	−0.13	−0.28*	−0.25	−0.29*	−0.20
Average training hours/year	−0.07	0.17	−0.16	−0.18	0.14	−0.13	−0.12	−0.06	0.03	−0.12

* $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$.

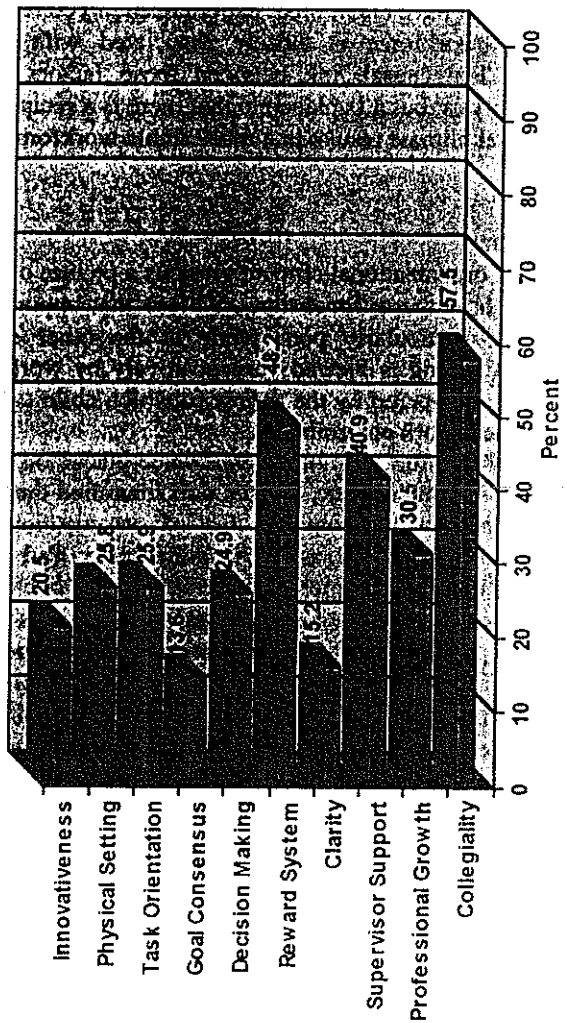
to each other (i.e. average number of years in current position and site turnover) are also significantly related to a number of the dimensions of organizational climate. In addition, a number of these organizational climate dimensions are more positive in centers that have older, more experienced directors. Hence, an older and more stable workforce is closely associated with a positive organizational climate. The causal link between these factors cannot be determined from this analysis, but it is plausible that there is a reciprocal effect – a positive organizational climate results in a more stable workforce and vice-versa.

Summary of Worker Values

The previous analysis of organizational climate gives us a picture of how child care centers fare on each of these dimensions. We see that opportunities for professional growth are particularly poor while at the other end of the continuum, the physical setting is viewed very positively by workers. These perceptions, however, are tempered by the degree to which child care workers value these aspects of their work environment.

Figure 6 gives us an indication as to the overall value placed on each of the 10 dimensions of organizational climate. Center staff identified the three most important aspects of their work from the list of organizational climate dimensions. The most highly valued aspect is **collegiality and co-worker relations** – over 60% of child care center staff identify this as one of the three most important aspects of their work. **Reward system** – fairness in pay and benefits-is second most important (48.2%) and **supervisor support** is third (40.9%) most important. The dimension of **opportunities for professional growth** comes in fourth with 30.5% of the caregivers identifying it as important. Therefore, even though staff do not perceive many opportunities for professional growth, this aspect is not as highly valued as other areas. Those areas least valued are **goal consensus** (13.5%), **clarity** (15.2%), and **innovativeness** (20.5%).

How these organizational climate dimensions are rated compared to the value placed on them gives us an indication where to focus improvement efforts. **Improvement in the reward system** will probably accrue the most lasting results since it is very poorly rated, yet highly valued. **Improving opportunities for professional growth** is also an area in which to focus attention since it is the most poorly rated area and ranked fourth in importance. On the other hand, **collegiality** is very important to workers, but given its positive assessment as a dimension of organizational climate, there is no need to improve it.



* Percent of center staff (averaged across sites) that identify each dimension of organizational climate as important.

Fig. 6. Summary of Worker Values.*

Summary of How Current Work Environment Resembles Ideal

As a way of understanding the discrepancy between ideal and real work conditions, child care workers were asked, "If you could design the ideal job, how close would your present position resemble this ideal position with respect to the following?" Responses range between *not at all like my ideal* to *is my ideal*. Based on this assessment, Figure 7 illustrates that the greatest discrepancy is in the **reward system**. There is a wide gap between what child care workers are paid versus what they think they should be paid. Given their current low salaries, this is an accurate appraisal on their part. The autonomy of staff to **make decisions** or express opinions on important issues is another area where child care staff feel that work environments least resemble the ideal.

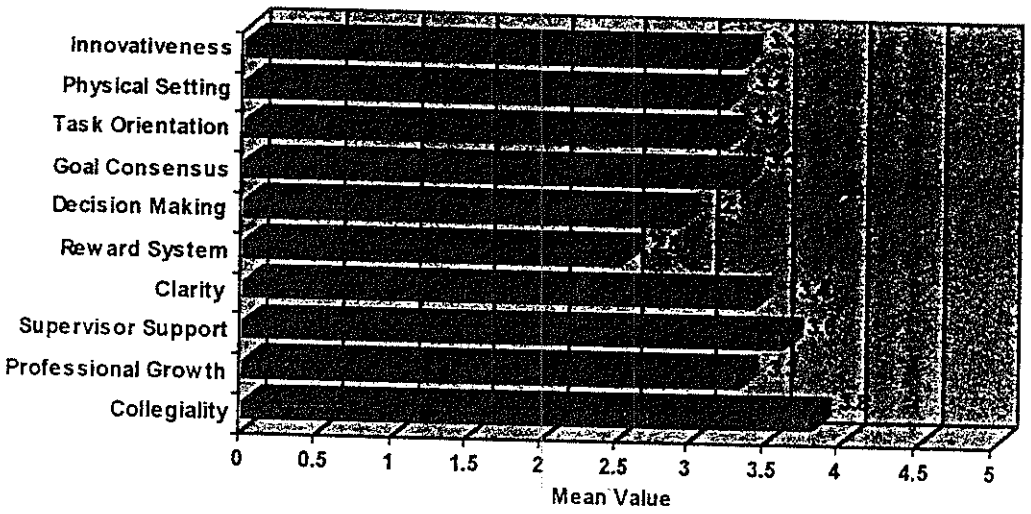
The smallest gap between the ideal environment and the real one experienced by child care workers is in the areas of **collegiality** and **supervisor support**. As far as **opportunities for professional growth**, the discrepancy between *ideal* and *real* falls mid-range on the continuum.

Importance of Educational Goals and Objectives

Early childhood programs can have a number of educational goals and objectives – but the priority given to each can vary across programs. Figure 8 shows how these educational goals and objectives are ranked in Pennsylvania child care centers. Consistent with developmentally appropriate practice in the early childhood field, the greatest emphasis is on **helping children to develop positive self concepts and self esteem** while the least emphasis is placed on helping children develop concepts needed for reading and math.

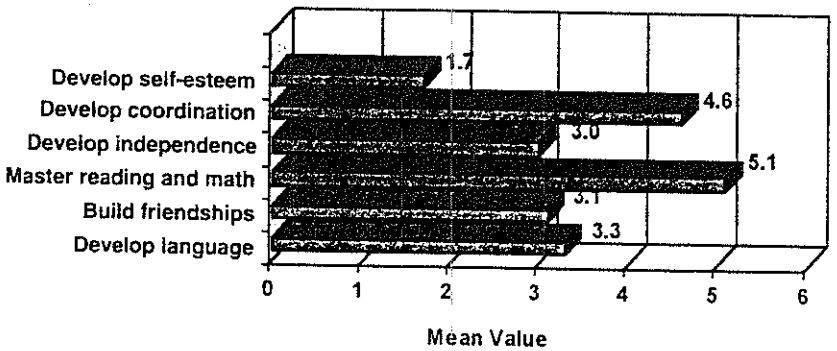
Degree of Influence of Teaching Staff Regarding Organizational Decisions

Perceptions of workers regarding the degree of influence of teaching staff with respect to various organizational decisions provides a fuller understanding of the decision making dimension of organizational climate. Staff were asked how much influence they have (very little to considerable influence) in ordering materials and supplies, interviewing and hiring staff, determining program objectives, training new aides or teachers, and planning daily activities. Figure 9 depicts the difference between what directors perceive is the degree of influence versus what teachers perceive is the degree of influence. Not unexpectedly, teachers do not perceive that they have as much influence as what directors say they do. This discrepancy also points to an area where improvement efforts can be focused.



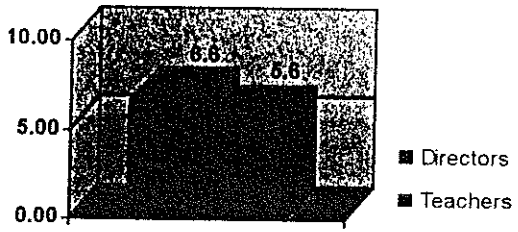
* Mean value for center staff on a scale of 1 = not like my ideal to 5 = like my ideal when asked "If you could design the ideal job, how close would your present position resemble your ideal work environment with respect to the following?"

Fig. 7. Summary of How Current Work Environment Resembles Ideal.*



* Mean value of importance on a scale of 1 = most important and 6 = least important.

Fig. 8. Importance of Organizational Goals.*



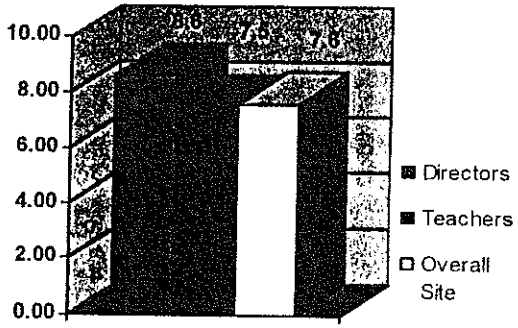
* Mean value on a scale of 0 = very little influence to 10 = considerable influence when asked. "How much influence does teaching staff currently have in each of the following areas below:

a) ordering materials/supplies
b) interviewing/hiring new staff
c) determining program objectives
d) training new aides/teachers
e) planning daily schedule of activities."

Fig. 9. Degree of Influence of the Teaching Staff Regarding Various Organizational Decisions.*

Overall Commitment

All of the characteristics that have been discussed provide an understanding of specific areas where attention can be paid in intervention efforts to improve child care work environments. The commitment scale provides a summary of overall commitment of child care staff to their centers. Individuals who feel deeply committed tend to put extra effort into their work and take pride in their centers. In such environments, turnover is generally lower. Commitment among Pennsylvania child care staff is relatively high. Figure 10 indicates that



* Mean value on a scale of 1 = not committed to 10 = highly committed.

Fig. 10. Overall Commitment.*

directors have a slightly higher level of commitment than teachers – 8.6 for directors compared to 7.5 for teaching staff. Together this gives us an overall value of 7.6 for child care centers.

Quality of Care

Quality of Care as Assessed through the Environment Rating Scales

A previous section discussed results from observations of child care sites and the scale values for each individual item on the FDCRS, ITERS, and ECERS. That discussion focused on these data as a means to assess training needs. Our focus now shifts to the question about overall quality of care and its changes over the years, based on earlier studies conducted in Pennsylvania in 1984 (Kontos & Fiene, 1987) and in 1989 (Fiene & Melnick, 1991).

Overall, average ECERS scores have improved through the years, although the changes are not statistically significant, increasing from 3.78 in 1984 to 4.27 in 1989 to 4.63 in 1996. An analysis of FDCRS scores shows a marked (statistically significant, $p < 0.05$) improvement from 1989, increasing from 3.80 in 1989 to 4.47 in 1996. Several observations can be made in comparing 1996 with 1989 and 1984 data sets. While program quality scores on the ECERS and FDCRS have improved over the 12-year time frame, the bad news is that quality scores, on average, are still at the mediocre level. The ITERS score in 1996 is even worse (4.23) and is a major concern. There are no comparable data for the ITERS from the 1989 or 1984 research studies. Overall, Pennsylvania child care has improved, but it is still not in the good or excellent range. National and international data from research studies are very similar with ranges from 3.70 for family child care homes with little training to 5.22 for child care centers that are accredited (Phillips, 1987).

What are some reasons for the improvements? Two major interventions occurred during this 12-year time period. Both occurred at approximately the same time so it is difficult to determine the contribution of each to the overall improvement in quality. In 1992 new child care regulations were promulgated and the new comprehensive PA CC/ECD Training System was implemented. New regulations were an improvement over existing regulations, but the regulations deal primarily with basic health and safety issues. Although this will contribute to overall quality, it will not be a major contributor (Fiene & Melnick, 1991). What has been and continues to be a major contributor is the training system that has been implemented. When data are compared from the ECERS and FDCRS, family child care homes improved significantly more than child care centers. The home-based training system has been in place for twice as long as the center-based system. This is a very encouraging result.

Factors Associated with the Quality of Child Care

The previous analysis presents an overall picture of the quality of child care in Pennsylvania and the progress made in improving quality. Analysis presented in this section examines the current data to determine what factors are significantly related to the quality of care. Part of this analysis will be based on a data set that has matched the environment rating scales with the child care providers that were observed. This data set establishes the most direct link between an indicator of quality and the set of factors that might be associated with it (e.g. background characteristics of the caregiver, level of training of the caregiver, and caregiver's assessment of organizational climate). Other parts of this analysis will be based on a site level data set where aggregate values for most of the variables have been created to represent the site, overall. Where necessary, data have been weighted to adjust for the different probabilities of sample selection (i.e. the FDCRS included both family and group homes while the ECERS included both centers and group homes, necessitating that these analyses be based on weighted data). This analysis, which will include both bivariate correlation and multivariate regression analyses, will be presented separately for each of the three environment rating scales.

Table 9 provides a summary of results of a series of bivariate correlations between the measure of quality (i.e. either the FDCRS, ITERS, or ECERS average score) and a set of factors hypothesized to be related to quality (e.g. caregiver background characteristics, training experience, and assessment of organizational climate; for family providers, in lieu of organizational climate, an indicator of their *connectedness* to a child care network is used).

Bivariate analysis of the FDCRS finds four factors that are significantly correlated with quality of family child care. Family caregivers that are younger and have higher long-term educational goals are more likely to provide a higher quality of care. The other factors are measures of a family provider's assessment of the current training system. Providers who evaluate the current system of training as **inappropriate to their skill level** and **not useful for their work** as a family caregiver are more likely to provide a higher quality of care. This is not as unexpected as it sounds. It is likely that those providers who are already providing quality care do not find as much benefit from the current training system that focuses most of its attention on entry level skills. In an attempt to further analyze this unusual finding, we examined the relationship between hours of training and evaluation of training by providers. We see that providers who have more hours of training are also more likely to rate the current system positively in terms of **goal achievement** ($B = -0.24$, $p \leq 0.07$), **appropriate skill level** ($B = -0.28$, $p \leq 0.03$), and **usefulness** ($B = -0.45$, $p \leq 0.000$).[14]

Table 9. Factors Associated with Quality of Care.

Factor	FDCRS (N = 67)†	ITERS (N = 36)	ECERS (N = 57)†
Caregiver Background			
Age	−0.30**	0.13	0.05
Educational level	0.003	0.14	0.11
Years in field	−0.20	0.25	0.04
Salary	0.19	0.43**	0.36**
Long term educational goal	0.27*	0.07	−0.09
Training Characteristics			
Annual educational goal	0.12	0.19	0.14
Training hours per year	−0.03	0.02	−0.09
CDA status	0.05	0.005	0.03
Training helpful in work	0.08	−0.16	−0.03
Evaluation of training system			
a. appropriateness	0.29**	−0.01	0.03
b. goal achievement	0.11	0.07	−0.10
c. usefulness	0.28**	0.08	−0.05
d. applicability	−0.02	−0.16	−0.08
Organizational Climate	N.A.††		
Overall commitment		0.01	0.14
Collegiality		−0.31	−0.005
Professional growth		0.15	0.41**
Supervisor support		−0.29	0.22
Clarity		0.06	0.32*
Reward system		−0.27	0.29*
Decision making		−0.24	0.17
Goal consensus		−0.18	0.32*
Task orientation		0.05	0.30*
Physical setting		0.20	0.21
Innovativeness		−0.07	0.23
Connectedness *(Family Child Care Only)*	−0.10	N.A.	N.A.

† This is the weighted N since there were observations made in more than one type of child care (i.e. family, group, or center).
†† N.A. = Not applicable
* $p \leq 0.05$; ** $p \leq 0.01$.

Our bivariate analysis of the ITERS finds only **salary level** of the caregiver to be significantly related to quality of infant/toddler care. Caregivers with higher salaries provide higher quality infant/toddler care. The bivariate analysis of the ECERS reveals a number of factors that are significantly correlated with

quality of child care: salary and organizational climate factors of **professional growth, clarity, reward system, goal consensus, and task orientation**. Thus, the caregivers that provide high quality early childhood care are more likely to:

- have higher salaries;
- indicate that their center has opportunities for professional growth;
- feel that communication at their center is good and that work schedules, job descriptions, and rules are clear and well-defined;
- indicate that the pay and fringe benefits are fair and equitably distributed in their center;
- indicate that staff at their center agree on school philosophy, are united in their approach, and are committed to program goals and objectives;
- believe that they work hard but still have time to relax, that program procedures are efficient, and that meetings are productive.

In an analysis of the site level data set, we created an overall *quality of care* variable as an indicator of child care quality.[15] In a multivariate analysis of these data, we then determined what site level factors significantly contribute to the variance in *quality of care* at the site level. Initially, we did not include any of the work environment variables (Bloom items) since that would result in excluding all home-based providers from the analysis. Our analysis reveals that **size** and **turnover** are significant factors and explain 19% of the variance in quality of care. Results from the regression analysis are: **class number** ($B = 0.11$, $p \leq 0.0053$) and **turnover** ($B = -1.08$, $p \leq 0.0216$). Thus, sites with more classrooms and lower turnover have a higher quality of care.

When we add the Bloom items on organizational climate (thereby eliminating all home-based providers from the analysis), we find that only **opportunity for professional growth** independently contributes to the variation of quality of care at child care sites (the majority of which are centers). The results from the regression analysis for **professional growth** are $B = 0.45$, $p \leq 0.0000$. Forty percent of the variation is explained by this factor. As we hypothesize, child care facilities that have more opportunities for professional growth have a higher overall quality of care.

CONCLUSIONS AND POLICY IMPLICATIONS

What can we conclude as a result of this research and what are the implications for public policy? There are numerous issues addressed and volumes of data analyzed. First, we can examine the overall conclusions with regard to the current training system – how it is evaluated and what the training needs are.

Overall, the training system is viewed positively by the provider groups, as evidenced by their response to questions about appropriateness, usefulness, applicability, and effectiveness in achieving learning objectives. Furthermore, providers express a high level of interest in the training and, for the most part, feel that additional training will help them in their work. When directors of centers and home-based providers are asked about the particular methods of training that they perceive to be most helpful to them and their staff, training methods that provide direct contact with a trainer (e.g. on-site training and workshops) are viewed as most helpful. Methods where the contact is indirect (e.g. video and satellite training) are viewed as least helpful. This is understandable, although the policy implications of this are not to abandon some of the more indirect, yet very cost effective methods of training like the learn-at-home videos and satellite training. A balance of methods is important in a system as massive as this one, where the ability to access training varies tremendously across providers and where resources are limited.

Regarding training needs, there is a high degree of consistency across provider groups in terms of areas they perceive as most critical. They identify supervision/discipline of children, social development (dealing with conflict), child development, and developmentally appropriate practice as areas with the highest priority. Although, providers do not identify any topic area as *not a priority* for training.

On the other hand, if we use the environment rating scales as an indicator where there are weaknesses in child care settings (hence, an area in need of training), we see a slightly different picture. Given the overall low score for the infant/toddler area (ITERS), any training in this area can be viewed as a priority. In addition, these items are consistently ranked low on all three environment rating scales: cultural awareness, personal grooming, dramatic (pretend) play, and sand and water play; furthermore, these areas are rated low in two out of the three environment rating scales: displays for children (FDCRS and ITERS), space alone (FDCRS and ECERS), helping infants/toddlers understand language (FDCRS and ITERS), art (ITERS and ECERS), and blocks (FDCRS and ITERS). Indeed, a number of these items from the environment rating scales fall under the broader categories of social development, child development, and developmentally appropriate practice. The information from the environment rating scales offers more specific areas of need.

One particularly interesting finding is the contradictory information related to the area of supervision/discipline of children. While providers identify this as a high priority area for training, the environment rating scales indicate an assessment in the *good* range for the discipline item. Again, this shows that

providers are performing better in this area than they think and it reveals the extent to which this is viewed as one of the most challenging areas in child care.

Turning now to the issue of quality of care and the factors that are associated with it, we find that our results that examine the relationship between the level of training at a site and quality of care are not as predicted. We do not find that the number of hours of training is a significant predictor of quality. What we do see, however, is that the most significant change in the quality of care since 1989 has occurred in family child care sites. Although we are unable to definitively conclude that the training system has been instrumental in improving quality of care in family homes, we do note that the home-based training system has been in existence for the longest period of time – over 10 years. Furthermore, the intervention effort (i.e. hours of training per year that staff at a site average), is still considerably low – 8.5 hours on average, with 98% of sample sites averaging fewer than 18 hours per year. A threshold for training to show some impact is around 18 hours according to other research (Howes, Smith & Galinsky, 1995). Given this, it is not unexpected that we do not find a significant relationship between number of hours of training and quality of care – there simply is not enough intervention (i.e. training hours) to determine impact.[16] What does this mean for public policy? While limitations of the research design and measurements do not allow for definitive conclusions, there are some tentative policy implications that can be drawn from this study (Kagan & Wechsler, 1998). One concerns the number of hours of training that are mandated in the state regulations for child care. It indicates the need to increase the number of hours of training for child care providers if a significant impact of training is to be detected.

This is further supported when we see the strong association between the organizational climate dimension of opportunities for professional growth and overall quality of care at the site level. Centers where staff report more opportunities for professional growth have a higher quality of care and this factor, alone, explains a considerable portion of the variation in quality (40%). This finding substantiates the importance of fostering professional growth opportunities for child care providers. But it also implies the importance of making sure that these opportunities are linked to a model of career development and progression – not just a few hours of training that providers haphazardly take because they have to or because they are offered at a time that fits their schedule.

Overall, these data have given us some solid evidence to guide the development of the training system in Pennsylvania. We have highlighted some very specific areas where there is a need for training and we have shown the clear association between opportunities for professional growth and the quality of care. Although there are some anomalies in the data and some unexpected findings, as a whole, these data are supportive of the efforts to implement a training system that fosters career development in the prediction that these efforts will improve the quality of care for children in Pennsylvania.

NOTES

1. This included a set aside of 6.25% of $731,915,000 in 1991 federal funds for program quality initiatives.

2. A decision was made not to extend the data collection process for one additional family site after we had difficulty in scheduling the final site visit.

3. There were 26 paired observations analyzed to determine inter-rater reliability. For the ECERS, the rank order correlation was 0.90; for the ITERS it was 0.95; for FDCRS, it could not be calculated since there was only one paired observation; however, a visual inspection of the FDCRS data shows a high degree of consistency across observers.

4. The instruments include specific descriptions of what to look for in assigning a value of 1,3,5 and 7 for each of the items assessed. A mid-point rating of 2,4 or 6 is given when all the lower and part of the higher description applies. The internal consistency scores (Cronbach's Alpha) for each of the environment rating scales is 0.83 for ECERS, 0.83 for ITERS, and between 0.70 and 0.93 for the individual subscales of the FDCRS.

5. The total scale alpha coefficient for internal consistency for the ten dimensions of organizational climate is 0.95. The specific details on the reliability and validity for other components of ECWES can be found in P. Jorde-Bloom (1996), *Improving the Quality of Work Life in the Early Childhood Setting: Resource Guide and Technical Manual for the Early Childhood Work Environment Survey.* Wheeling, Illinois: The Early Childhood Professional Development Project.

6. They were asked to indicate if there is a need for training, based on a scale of 1 to 4 where 1 = a very serious need and 4 = not a training priority.

7. For the purpose of this analysis on training needs, both the directors and teachers within a group home have been combined into one category, representing group child care providers. This decision was made because the child care setting is usually small and a distinction cannot always be made between a "director" and "teacher" within the group site.

8. For example, the ECERS doesn't assess health and safety areas and the discipline item is spread across a number of supervision items.

9. Each factor was assessed by providers as 1 = very important, 2 = somewhat important, or 3 = not important.

10. It is important to keep in mind that when providers indicate that they learned the material, this is based on their subjective assessment, and the extent to which they actually did learn the material is not objectively measured through this question.

11. Teachers in both group and center settings were asked, "In general, how interested are you in taking workshops or courses on teaching and/or caring for

children?" Directors were asked to indicate their perception of interest on the part of their staff.

12. Family providers were asked, "Based on your experience, what method(s) of training are most helpful for you?" Center directors, were asked, "Based on your experience, what method(s) of training are most helpful for your staff?"

13. The analysis in this section only includes child care centers since we used Bloom's instrument only in facilities that had more than three staff, as recommended. There were a total of 60 centers included in the data set, however, due to missing data from some centers, only 55 are included in the analysis presented herein.

14. These coefficients are negative since a lower value on each of the evaluative factors indicates a more positive assessment.

15. If there were two classrooms observed, the new overall *quality* measure was an average of the two scores (regardless of the type of classroom observed). If only one classroom was observed, then that score became of the site's overall *quality* score.

16. There may also be measurement problems related to the *quantity of training* variable. Issues related to recall on the part of the provider and definitions of what constitutes training may vary – both of which can affect the reliability and validity of the reported hours of training.

ACKNOWLEDGEMENTS

Keystone University Research Corporation would like to thank the many individuals who contributed to the completion of this study. First, the Department of Public Welfare, Office of Children, Youth, and Families, Bureau of Child Day Care is commended for their commitment to child care and efforts to improve quality. Without their funding of this project, it could not have been completed. The support of Richard Fiene, Ph.D., the DPW Project Officer, has been particularly instrumental in moving this research forward and guaranteeing that the policy implications of the findings are not loss. In addition, others within DPW – Kathryn Holod, Director, Bureau of Child Day Care and Jo Ann R. Lawer, Esq., Deputy Secretary for Children, Youth, and Families – are thanked for their continued support of this effort.

Thanks are also extended to the family, group, and center child care facilities that participated in this study as sample sites. Without their willingness to participate in this study and to be open and honest with the fieldworkers, this study would not have been possible. Furthermore, Lisa Heintzelman, Carla Thompson-John, Patricia Robinson-Burns, Ronnie Braun, Debora Reiff, Robin Eckert, Judy Peterson, Barbara Marchese, Majida Mehana, Kristi Hannan, Winifred Feise, Marilyn Albert, Jeanette Twombly, and Genevieve Mann are thanked for their quality efforts as fieldworkers for this study.

Finally, the individuals who contributed countless hours to assist the principal investigators in implementing this project – Pauline Kraus and Scott Johnson of Keystone University Research Corporation – are thanked for their perseverance over the long haul. The tasks of organizing the data collection process, monitoring the work of fieldworkers, organizing the data sets, and assisting in its analysis were complicated and required considerable attention to detail.

The overarching goal of this study is to contribute to our knowledge about how to improve the quality of care for children in Pennsylvania. We hope that the knowledge gained as a result of this study will take us one step further in that direction.

REFERENCES

Barbour, N. E., Peters, D. L., & Baptiste, N. (1995). The child care associate credential program. In: S. Reifel (Ed.), *Advances in Early Education and Day Care (Vol. 7): Social Contexts of Early Development and Education*. Greenwich, CT: JAI Press.

Bredekamp, S., & Willer, B. (1994). Introduction. In: J. Johnson & J. McCracken (Eds), *The Early Childhood Career Lattice: Perspectives on Professional Development*. Washington, D.C.: National Association for the Education of Young Children.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Caffarella, R. (1994). *Planning programs for adult learners: A practical guide for educators, trainers, and staff developers*. San Francisco, CA: Jossey-Bass.

Children's Defense Fund (1998). *The state of America's children*. Washington, D.C.: Author.

Children's Defense Fund (1994). *The state of America's children*. Washington, D.C.: Author.

Chung, A., & Stoney, L. (1997). *Using research to improve child care for low-income families*. Washington, D.C.: Child Care Bureau, Administration for Children, Youth and Families, Department of Health and Human Services.

Fiene, R. (1995). Utilizing a statewide training system to improve child day care quality. *Child Welfare*, *74*(6), 1189–1201.

Fiene, R., & Melnick, S. (1991). Quality assessment of early childhood program: A multi dimensional approach. Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.

Galinsky, E., Howes, C., Kontos, S., & Shinn, M. (1994). *The study of children in family child care and relative care: Highlights of findings*. New York, NY: Families and Work Institute.

Helburn, S. (Ed.) (1995). *Cost, quality, and child outcomes in child care centers*. Denver, CO: Center for Research in Economics and Social Policy, Department of Economics, University of Colorado.

Holt-Reynolds, D. (1995). Preservice teachers and coursework: When is getting it right wrong? In: M. O'Hair & S. Odell (Eds), *Educating Teachers for Leadership and Change*. California: Corurn Press.

Howes, C., Smith, E., & Galinsky, E. (1995). The Florida child care quality improvement study: Interim report. New York, NY: Families and Work Institue.

Johnson, J. (1994). *Child care training and developmentally appropriate beliefs and practices of child care employees in Pennsylvania*. Harrisburg, PA: Center for Schools and Communities.

Jones, E. (Ed.) (1993). *Growing teachers: Partnerships in staff development*. Washington, D.C.: National Association for the Education of Young Children.

Jorde-Bloom, P. (1988). Assess the climate of your center: Use the early childhood work environment survey. *Day Care and Early Education*, (Summer), 9–11.

Jorde-Bloom, P. (1998). Using climate assessment to improve the quality of work life in early childhood programs. In: S. Reifel (Ed.), *Advances in Early Education and Day Care* (Vol. 10). Greenwich, CT: JAI Press.

Jorde-Bloom, P., & Sheerer, M. (1992). The effect of leadership training on child care program quality. *Early Childhood Research Quarterly, 7*, 579–594.

Kagan, S. L., & Wechsler, S. (1998). Changing realities – changing research. In: S. Reifel (Ed.), *Advances in Early Education and Day Care* (Vol. 10). Greenwich, CT: JAI Press.

Katz, L. (1994). Perspectives on the quality of early childhood programs. *Phi Delta Kappan*.

Kontos, S., & Fiene, R. (1987). Child care quality, compliance with regulations, and children's development: The Pennsylvania study. In: D. Phillips (Ed.), *Quality in Child Care: What Does Research Tell Us?* Washington, D.C.: National Association for the Education of Young Children.

Lewin, K. (1935). *A dynamic theory of personality: Selected paper*. New York: McGraw-Hill.

Love, J., Schochet, P., & Meckstroth, A. (1996). *Are they in any real danger? What research does – and doesn't – tell us about child care quality and children's well being*. Princeton, NJ: Mathematica Policy Research, Inc.

McAllister, J. (1997). The Children's Crusade. *Time*, (August 25), 36.

Modigliani, K. (1993). Readings in family child care professional development: Project-to-project compiled. Boston, MA: Wheelock College Family Child Care Project.

Morgan, G., Azer, S., Costley, J., Elliott, K., Genser, A., Goodman, I., & McGimsey, B. (1994). Future pursuits: Building early care and education careers. In: J. Johnson & J. McCracken (Eds), *The Early Childhood Career Lattice: Perspectives on Professional Development*. Washington, D.C.: National Association for the Education of Young Children.

Morgan, G., Costley, J. B., Genser, A., Goodman, I. F., Lombardi, J., & McGimsey, B. (1993). *Making a career of it: The states of the states report on career development in early care and education*. Boston: The Center for Career Development in Early Care and Education, Wheelock College.

Phillips, D. A. (1987). *Quality in child care: What does research tell us?* Washington, D.C.: National Association for the Education of Young Children.

Phillips, D. A., Howes, C., & Whitebook, M. (1992). The social policy context of child care: Effect on quality. *American Journal of Community Psychology, 20*, 25–51.

Stoney, L., Elliott, K., Chung, A., Genser, A., & Raggozzine, D. (1997). *Common Threads: Weaving a Training and Career Development System for 21st Century Pennsylvania*. Boston, Massachusetts: The Center for Career Development in Early Care and Education, Wheelock College.

U.S. Department of Education (1990). *A profile of child care settings: Early Education and care in 1990*. A final report by Mathematica Policy Research. Washington, D.C.: author.

VanderVen, K. (1994). Professional development: A contextual model. In: J. Johnson & J. McCracken (Eds), *The Early Childhood Career Lattice: Perspectives on Professional Development*. Washington, D.C.: National Association for the Education of Young Children.

Willer, B. (1994). A conceptual framework for early childhood professional development. In: J. Johnson & J. McCracken (Eds), *The Early Childhood Career Lattice: Perspectives on Professional Development*. Washington, D.C.: National Association for the Education of Young Children.