

THE UNIVERSITY OF MANITOBA  
THE EFFECT OF PRIOR TRAINING  
ON CAREGIVER-CHILD INTERACTION  
IN A DAY CARE SETTING

by  
Laura Elizabeth Atkinson

A thesis submitted to  
the Faculty of Graduate Studies  
in partial fulfillment  
of the requirements for the degree of  
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## Abstract

The effect of specific child care training and some other variables on the quality of caregiver-child interaction in a day care setting was investigated. 79 caregivers were observed and the quality of their interaction with three- and four-year-olds measured. Aspects of the setting were observed and caregivers interviewed for background information. The quality of interaction provided by trained caregivers was significantly better than the quality of interaction provided by untrained caregivers. Overall quality of the setting also had a significant effect on the quality of the interaction. There was also an inverse relationship between the number of children per caregiver and the quality of interaction. Correlations were not significant, however, between quality of interaction and the following variables: 1) the length of time that a caregiver had worked in early childhood education; 2) the average hourly wage of the caregiver; 3) the number of years of schooling of the caregiver; 4) the age of the caregiver; and 5) the absolute group size or number of children in the room. Some implications for child care policy are drawn. An extensive review of the literature on the effects of day care on children, the issue of quality in child care, and the effects of different aspects of interaction on child outcomes is provided, along with a comprehensive reference list (69 items).

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## Table of Contents

Introduction .....	2
Review of the Literature .....	4
The Effects of Day Care .....	4
Elements of Quality Programs .....	6
The Effects of Interaction on Child Outcomes .....	11
Method .....	18
The Sample .....	18
The Instruments .....	18
Procedure .....	21
Selection and Initial Contact .....	21
Recruitment and Training of Observers .....	22
The Observations .....	24
Centre Quality Ratings .....	26
The Interviews .....	26
Data Analysis .....	28
Results .....	29
Characteristics of the Group of Caregivers Studied ...	29
The Observations .....	42
Correlations .....	44
Analysis of Variance .....	45
Discussion .....	52
The Question of Quality in Early Childhood Programs ..	52
The Contribution of the Present Study to the Quality Question .....	54
The Training-Quality Connection .....	56
The Effect of Other Caregiver Characteristics .....	59
The Effect of Some Aspects of Program Organization ...	61
The Effect of Overall Program Quality .....	63
Conclusion .....	65
References .....	68
Appendix A	Caregiver Observation Form and Scale (COFAS)
Appendix B	Child Care Worker Survey (CCWS)
Appendix C	Centre Quality Rating Form (CQRF)
Appendix D	Introductory Letter to Centres
Appendix E	Letter of Consent

## List of Tables

Table 1	
Characteristics of Caregivers .....	30
Table 2	
Children of Caregivers .....	31
Table 3	
Proportion of Work Time Spent with Children .....	32
Table 4	
Satisfaction with Various Aspects of the Job .....	33
Table 5	
Caregiver's Financial Situation .....	37
Table 6	
Formal Qualifications .....	39
Table 7	
Worker Classification .....	40
Table 8	
Aspects of Observation Situations .....	43
Table 9	
The Effect of Training on Quality of Interaction .....	47
Table 10	
The Effect of Overall Quality of the Child Care Setting on Quality of Interaction .....	49
Table 11	
The Effect of Quality of Setting and Training on Quality of Caregiver-Child Interaction .....	50

In the last twenty-five years, profound changes in the make-up of the Canadian family have increased the need for substitute care arrangements for the young children of working parents. A high percentage of marriages are ending in divorce, creating new single parent families (Baker, 1984). But an even more striking change has been the dramatic increase in the labour force participation by married women with children under six years of age. Their participation rate has gone from 49.5 per cent in 1981, to 62.1 per cent in 1986 (Statistics Canada, 1988). At the same time, new knowledge about the importance of children's early experiences for their later school and general life success has created a growing concern for the quality of programs which provide care for young children (Schweinhert, Weikart, & Lerner, 1986). Research is needed to address basic questions about the components that are needed in a quality child care program to enhance the physical, social, emotional, language, and cognitive development of young children.

One aspect of child care of particular concern is the interaction between caregivers and children in a substitute care situation. We need to know more about this interaction which is a key element in the effectiveness of a child care program (Katz, 1984). This interaction affects the child's language and cognitive development and shapes the child's social and emotional response to the worlds of authority and human institutions. In spite of the importance of these effects (Phyfe-Perkins, 1981) we know very little about how young children are affected by



interaction with adults and there is little consensus on what kinds and amounts of interaction will have the most positive effect on children (Fogel, 1986).

In the findings of the National Day Care Study (NDCS), the presence of caregivers who had specific child care training was identified as an important component of a quality program for three to five year olds (Ruopp, Travers, Glantz, & Coelen, 1979). Because of this research and other studies with similar findings, the Province of Manitoba has taken action on the qualifications required for child care workers. As of October 31, 1988, at least two-thirds of the staff of any full-time day care centre are required to be classified as Child Care Worker II or III. These classifications are reserved for individuals who have completed one or more years of specific child care training or the equivalent (Day care: Information for child care workers 1984-1988). However, many questions related to this aspect of quality care remain unanswered.

The purpose of this study was to examine the question: Does caregiver training positively affect the quality of caregiver-child interaction? More specifically: Do caregivers who have received specific child care training, of the type required in Manitoba, engage in higher quality interaction with the children in their care than their untrained counterparts?

## Review of the Literature

### The Effects of Day Care

In much of the research done in the sixties and the seventies it was assumed that routine daily separations of mother and child would have severe effects on the long-term mental health of the child. Many studies were set up expressly to find the origins of these expected effects (Belsky, 1984). In 1978, an exhaustive review of day care research by Belsky and Steinberg did a great deal to change the general direction and focus of subsequent research. According to them, the research to date showed that when the day care was of high quality and was centre based, there were no negative effects on intellectual development nor on the emotional bond with the mother. These had been the two effects of particular concern. In the next few years, there were several more reviews of day care research that examined different areas of concern such as social-emotional development and physical development and also found no deleterious effects of day care per se (Belsky, Steinberg, & Walker, 1982; Etaugh, 1980; O'Connell, 1983; Rutter, 1981). Kilmer (1979) reviewed the research on the effects of group care specifically on infants and toddlers and found few significant differences between children who had nonmaternal care for at least 20 hours per day and those who had not.

But while Belsky and Steinberg had been reassuring about

the effects of nonmaternal care on children, their comments on the limited focus and methods of research on day care caused many researchers to change their approach to looking at child day care. Research so far had concentrated on high quality settings attached to universities or child study institutes, which were not representative of the kind of child day care available in the community. Centre care had been studied almost exclusively although the majority of children in day care were cared for in licensed or unlicensed family day care homes. There were serious concerns about methodology as well, especially comparability of samples and the use of laboratory experiments or psychological tests which made the generalizability of the results questionable.

Researchers began to look at outcomes of different types of day care to determine what type was best for young children. They also began deliberately to study child outcomes and to carry out observations in community based centres. More attention was paid to family day care, comparing it to centre care. Snow (1983) reviewed sixteen of these studies. Eight of them showed no significant differences in outcome measures or behaviour between children in centre care and children in family day care. The studies that found differences presented no consistent pattern. Socio-economic status of the child's family was a more reliable predictor of child outcomes than type of child care used (Winett, Fuchs, Moffatt, & Nerviano, 1977). Some developmental differences that had been found were judged to be program-specific when the

results could not be replicated in similar studies (Macrae & Hebert-Jackson, 1976). The review of these and other studies by Snow (1983) suggested that there are more variations within program types than between program types. In fact, the National Day Care Home Study which reported its findings in 1981, found wide variations in the quality of care provided in day care homes. Generally, better care was provided in regulated homes and in homes where the caregiver had some child care training (Fosburg & Hawkins, 1981).

#### Elements of Quality Programs

Once it was generally accepted that the day care experience in itself was not damaging to the development of children as long as the day care was of high quality, it became important to determine what elements of a quality program were essential to ensure positive outcomes for children (Lero & Kyle, 1985). A great deal of effort went into developing checklists of the characteristics of high quality day care to be used by parents and professionals to assess the quality of a given program (Bradbard & Endsley, 1978). These checklists could provide a good assessment of the physical environment, operating routines and activities of a day care centre.

In spite of some limitations, these checklists were widely used. In the Bermuda studies of the early eighties, the Harms and Clifford Early Childhood Environment Rating Scale (ECERS) was

used to obtain a global quality measure for each of the eight day care centres studied. The study found that many aspects of childrens' language and social development were moderately to highly related to differences in the quality of their day care environments (McCartney, Scarr, Phillips, Grajek, & Schwarz, 1982).

McCartney re-examined the data (1984) controlling for centre selection more rigorously and concentrating on language variables in the day care settings as well as on language outcomes. She demonstrated that the total quality score of the child's day care centre was a significant predictor of the child's intellectual and language scores on four measures. Further analysis showed that the quantity of verbal interaction with caregivers in the child's centre was predictive of two of the language measures and that the proportion of control utterances by the caregiver was a negative predictor of all four language measures. These findings emphasize the importance of the processes of language interaction between child and caregiver in a child care setting.

It was clear now that the most important consideration in the impact of day care on children was the quality of the program and that research was needed to identify criteria for determining quality in day care programs. Since high quality child care was known to be very expensive, it was important to determine which quality indicators were essential to ensure desired child outcomes. This question was addressed by the

National Day Care Study (NDCS) which was undertaken to determine the effects of centre characteristics that are amenable to regulation, on the quality and cost of day care for preschoolers (Ruopp et al., 1979). The research looked in particular at staff/child ratios, group size, and the education, experience and training of staff. It was carried out at 67 centres in three cities which were chosen to maximize diversity of the sample both for centre characteristics and the ethnic and socioeconomic background of the client groups (Ruopp & Travers, 1982).

Results of the NDCS were consistent across substudies and the three sites. For preschoolers, absolute group size was more important than ratios in predicting positive behaviours and gains on tests. (It must be remembered, however, that this study did not look at staff:child ratios greater than 1:9.) In smaller groups, children were more cooperative and responsive to adults and other children, initiated more conversations and were more likely to engage in creative or intellectual activity and less likely to wander aimlessly. However, favourable ratios were associated with some desirable caregiver behaviours. When caring for fewer children caregivers spent less time controlling and correcting the children, even though they also spent more time interacting with other adults and preparing materials. Also, in a subsidiary study of infants and toddlers in group care, it was found that ratios were as important as group size for this age group. Favourable ratios were associated with less apathy and distress, less physical danger and less management and control of

the children.

Another very clear finding was that caregivers with specific child care training showed a high degree of interaction with the children in their charge and that these children made relatively higher gains on standardized tests. There was no such effect for the caregiver's years of formal schooling even when this included college diplomas or university degrees (Ruopp et al., 1979).

The NDCS set the stage for a new group of researchers who were able to take these social structural parameters of the day care environment and ask how and why these influenced the child's development (Belsky, 1984). The quality indicators identified by the NDCS could be used as independent variables and the dependent variables could be either observation measures of caregiver or child behaviour or measures of child development outcomes.

Howes (1983) examined the effect on caregiving behaviours of several conditions of work experienced by child care workers. In day care homes the best predictors of positive caregiving were small groups, trained caregivers, child designed space and fewer hours of contact. In centres, the best predictors of positive caregiving behaviours were favourable ratios, trained caregivers, small groups and shorter hours.

The Howes study suggests how quality indicators may be translated into better outcomes for children through the medium of interaction with the caregiver. Howes and Rubenstein (1985) carried this one step further by examining how the child's experiences in day care are effected by two factors, the child's

age at entry and the quality of the day care environment, defined by favourable ratios and small group size. The assumption is that the child's experience in day care is more important for the child's socio-emotional health than the fact that he/she attended day care or the type of day care. The study suggested that early entry into day care did not indicate a negative experience in care. Positive social interaction between children and their caregivers was associated with favourable ratios and smaller group sizes and was more common in centres than in family day care homes. It seems that the interaction between the child and the caregiver is effected by the quality indicators that were examined in this study and that ratios as well as group size are important determinants of the day care experience of toddlers.

Another study that uses quality indicators as independent variables also uses child behaviour in interaction with the caregiver as the dependent variable (Vandell & Powers, 1983). The specific question addressed was whether differences in centre quality would be associated with differences in children's positive and negative behaviour with adults, their positive and negative behaviour with peers and children's solitary and unoccupied activity. Children in high quality centres were found to be more likely to interact with adults with respect to positive behaviour, positive vocalization, and total behaviour while children in low and moderate quality centres were more likely to engage in solitary and unoccupied behaviour.



### The Effect of Interaction on Child Outcomes

These three studies show a pattern of the effects that quality indicators have on the behaviours of caregivers and/or children and their interaction in the day care setting. A fourth study measured the physical environment and the caregiver's and child's behaviour in group and family day care settings in New York City for 400 infants, and assessed child outcomes at several ages up to three years (Stevens, 1982).

Very few differences were found between the care environments of the centres and the family day cares. The group centres provided a better physical environment and generally better nutrition and seemed more supportive of intellectual development although the mechanism for this was unknown. The family day cares had more favourable ratios and a greater quantity of social interaction. No significant relationships were found between measures of children's individual experiences in day care and measures of intelligence, receptive language skills and social competence with peers. But, for individual children, the amounts of total social interaction, cognitive/language stimulation and social/emotional stimulation provided by caregivers, in either centre or family day care, at 24 months, were positively correlated with 36-month ratings of language competence, social competence with adults and emotional adequacy. This interesting finding may provide us with measures of the kind of caregiver interaction that can be shown to correlate with later develop-

mental outcomes. The connection with later development is the valuable contribution of this study.

Caregiver-child interaction variables have frequently been shown to influence the social, language and/or cognitive development of the child. The verbal responsiveness and amount of verbal stimulation by the mother has been related positively to the child's language development (Bing, 1963; Bradley & Caldwell, 1976; Clarke-Stewart, 1973). Frequent verbal stimulation of the child by talking or reading to the child was also found to be predictive of later cognitive development (Clarke-Stewart, 1973; Elardo, Bradley, & Caldwell, 1975; Milner, 1957; Wachs, Uzgiris, & Hunt, 1971).

Contingent caregiver responsiveness to child behaviours is thought to both reinforce those behaviours and demonstrate to the child that behaviour has consequences, thus motivating the child to all further learning by showing that it is possible to have an impact on the environment (Lewis & Goldberg, 1969). Maternal attentiveness demonstrated by a high level of responsiveness to the child's initiations has been positively related to exploratory behaviour (Rubenstein, 1967) while maternal restrictiveness has been shown by several investigators to be negatively related to child competence and exploratory behaviour (Ainsworth & Bell, 1970; Beckwith, 1971; Clarke-Stewart, 1973; Elardo et al., 1975).

Of special interest is the affective dimension of the mother-child interaction. Frequent expression of positive affect

on the part of the mother has been positively related to overall child development and to specific functions such as social responsiveness, goal directedness, preference for novel stimuli, and object permanence (Yarrow, Rubenstein, Pederson, & Jankowski, 1972).

Another important dimension of the caregiver-child interaction is the mediation of the inanimate environment through the provision of play materials that are responsive to the child and appropriate in complexity to the child's stage of development. Mothers who provide these kind of materials in their child's environment have children who are more receptive to novel stimuli and more cognitively advanced (Rubenstein, 1967; Elardo et al., 1975; Clarke-Stewart, 1973).

The child also has an influence on the caregiver's behaviour and may initiate or terminate certain kinds of interactions (Bell, 1971). The process of mutual influence has been shown to be a complex pattern in which both partners have an active role (Capella, 1981; Robson, 1967).

All of these studies deal with the interaction between children and their mothers. McCartney (1984) points out that the relationships demonstrated between aspects of caregiver behaviour and child outcomes may be due partly or solely to the fact that the child and caregiver are related and share many characteristics without there being any certainty that caregiver characteristics have contributed to or caused a particular outcome. Fortunately there are also many studies of the effects of

particular, extra-familial adult interventions on child outcomes to support the mother-child findings.

Interventions designed to enhance the language acquisition and competence of children, have suggested both experimentally (Nelson, 1977; Nelson, Carskaddon, & Bonvillian, 1973), and in the field (Fowler & Swenson, 1979; Gordon, 1984; O'Connell & Farran, 1982; Tizard et al., 1972), that environmental influences in the form of adult social inputs have an impact on the language development of children. These effects have been demonstrated in infants, preschoolers, and school age children.

The emotional tone of the caregiver's interaction with the child has also been shown experimentally, to have an effect on the child's exploratory behaviour and task-related curiosity. These child behaviours, considered critical for learning and cognitive development, were enhanced by friendly, supportive behaviour and depressed by aloof, critical behaviour on the part of adults (Moore & Bulbulian, 1976).

Studies which specifically examined interactions in the day care setting found that adults account for most of the learning interchange that toddlers encounter in group care (Honig, Caldwell, & Tannenbaum, 1970). Finkelstein (1978) found that as infants grew into toddlers their frequency of teacher interactions decreased and their frequency of peer interactions increased, apparently as they became more able to display social behaviour and verbal language. Holmberg (1980) explored this area further and found that extended interchanges were increasingly

with peers rather than caregivers and that the number of assertive (negative) initiations declined as the children got older. It was concluded that adults extended the interchanges with children and that children gradually learned to do this with their peers. O'Connor (1976) found that spatial and conceptual role-taking (ability to conceptualize another's point of view) was directly related to increased interaction with peers. The ability to take the role of others may be seen as an index of interpersonal competence so the causal links from caregiver interaction to peer interaction to interpersonal competence can be seen in these studies.

The way that specific, child care training translates into quality care is suggested by the fact that untrained adults seem generally unable to respond in an empathic, child-centred manner to child communications (Teyber, Messe, & Stollak, 1977). In lower quality centres where staff tend to be untrained, Sheehan (1979) found, among other things, that caregiver interaction with children was mostly neutral with little enthusiasm, praising or rewarding; Honig & Wittmer (1981), in similar centres, found that 21.4% of toddler's bids for attention, help, or information were ignored, compared to 1% which had been noted by one of the authors in a previous study of a high quality centre (Honig, & Lally, 1975). In these situations it is not clear whether lack of training or other issues that effect quality, is causing the problem. Clarke-Stewart (1982) claims that trained caregivers are more interactive, helpful, talkative, playful, positive and

affectionate with children in their care than untrained persons, even parents.

Taken together, all of this research on the effects of day care and on quality indicators in day care suggests that:

- 1) time spent in good quality day care, of whatever type, seems to have no deleterious effects on child development but certain elements of a quality child care program seem to be more important for child outcomes;
- 2) overall centre quality is associated with positive outcomes;
- 3) certain quality indicators, including caregiver training, are associated with positive caregiving behaviour and positive child experiences in day care; and
- 4) certain elements of the quality of caregiver-child interaction are associated with positive outcomes for children.

A question that is left unanswered is whether specific child care training, by itself, has an effect on the quality of interaction between the caregiver and the child. Does training enhance the quality of this interaction? If so, can this effect be measured and/or distinguished from the effects of other quality indicators?

This study addressed these questions. Specifically, the hypothesis of this study was that trained caregivers will demonstrate higher quality interaction with the children in their care. As the caregivers themselves seem to be the key to high

quality care, their understanding of how to respond to and meet children's developmental needs, acquired through training, will be the key to their interaction with the children and the children's positive outcomes. To the extent that the hypothesis is supported, the importance and adequacy of child care training for day care workers in Manitoba will be established, as well as the wisdom of the government policy that is phasing in the training requirement.

The questions for investigation became:

- 1) Does prior, specific child care training enhance the quality of the caregiver's interaction with the child?
- 2) Do other characteristics of the caregiver such as age, years of experience, or years of formal schooling, also have an effect on the quality of caregiver-child interaction?
- 3) Do other specific aspects of program organization or functioning, such as ratios, group size, or average hourly wage, also have an impact on the quality of caregiver-child interaction?
- 4) Is overall quality of the program a more important consideration than any specific aspect such as caregiver training?

## Method

### The Sample

The sample consisted of seventy-nine Child Care Workers who were in permanent positions and were working with children three to five years old. All worked in one of twenty-five licensed and provincially funded child care centres in the city of Winnipeg. Three of the workers were male and seventy-six were female, reflecting the predominance of women in this field of work. All but two of the group were employed full-time at their centres. The two part-time workers had both been employed for a number of years at their centre but each was temporarily working part-time for personal reasons.

### The Instruments

The Caregiver Observation Form and Scale (COFAS) was developed by Dr. Richard J. Fiene as a component of the Child Development Program Evaluation Scale (CDPES). The CDPES is a general-purpose evaluation scale, the synthesis of research and field testing by a consortium of agencies responsible for monitoring the quality of early childhood development programs in four U.S. states. The CDPES measures the compliance of child development programs with regulations, and also measures the overall quality of the program (Fiene, 1984).



The COFAS contains a list of twenty-nine caregiver behaviours that are observed and coded on a score sheet, for ten two-minute observation intervals, then assigned their designated weight and summed for a total score (see Appendix A). The COFAS is designed to determine if adult behaviour in a child care setting provides for a variety of activities and promotes the development of language, cognitive, social-emotional, and physical skills, as well as a positive self-concept in the child. Items comprising the COFAS were selected following extensive field testing (Fiene & Nixon, 1981). Other information recorded on the observation form includes: number of children present (or absolute group size), number of adults present (which allows the calculation of ratio of children to adults), the time of the observation, and the type of activity in which the children are engaged.

In this study the COFAS score was used as a measure of the quality of the caregiver's interaction with the children. The instrument was used according to the author's detailed instructions. Scoring was modified, however, to eliminate negative scores by adding 100 to each score. This change simplified statistical analysis.

The Centre Quality Rating Form (CQRF) was adapted from the criteria used by the Centre Accreditation Project of the National Academy of Early Childhood Programs (NAEYC, 1984). Only those items that could be readily observed were included since this study required covert evaluation of centre quality and

therefore precluded interviewing staff. A total of sixty-three items were included. These covered the following aspects of the program, 1) interactions among staff and children; 2) curriculum; 3) physical environment; 4) health and safety; and 5) nutrition and food service (see Appendix C). The observers rated only those items that they personally observed. Each item was rated as: 1 -criteria not met at all; 2 -criteria partially met; or 3 -criteria fully met. A rating of 1 on any item yielded a score of zero for that item, a rating of 2 yielded a score of two, and a rating of 3 yielded a score of three.

The "overall quality" score was the attained score, expressed as a percentage of the total possible score, after items not observed were eliminated (i.e. 3 x the number of items observed). Centres with a very high score, from 95 to 100, were considered "excellent". Since the Centre Accreditation Project is considered, in the field, to measure quality above a level acceptable to provincial licensing bodies, centres with scores from 85 to 94 were considered "adequate" and centres with scores below 85 were considered to be of "poor" quality.

The Child Care Worker Survey (CCWS) was designed by the principal researcher, based on an early survey of child care worker characteristics (Goodrich, 1976) used in the National Day Care Study (NDCS). Many items were eliminated, added, or modified to be usable in the Manitoba child care environment. The CCWS includes an employment and educational history, including present classification, present working conditions and pay, and

attitudes toward these, as well as personal characteristics such as age, composition of household, and numbers and ages of children (see Appendix B).

## Procedure

### Selection and Initial Contact

Twenty-five licensed centres that provide full-time care to preschool children, were randomly selected, using a table of random numbers, from a list of provincially funded centres. An introductory letter was sent to each centre (see Appendix D) which described the proposed research in general terms and requested the participation of the centre in the study. Copies of the Letter of Consent (see Appendix E) to be signed by each Child Care Worker were also included. The letter was followed by a phone call to answer questions and discuss the response of each centre to the request. Each centre that agreed to participate was then visited to retrieve signed Letters of Consent and to arrange times when observations could be carried out. Of the twenty-five centres contacted, all but five were able to participate in the study. Of the five that declined, four had valid reasons involving recent staff changes, projected moves, available age groups, or holiday schedules. Only one centre refused outright to be part of the study.

The centres that agreed to participate were located through-

out the city of Winnipeg. Facilities included renovated premises in schools, community centres, churches, and apartment buildings as well as buildings that had been specially designed and built as day care centres. All centres were run by non-profit organizations. The number of children served by each centre varied from twenty-eight to sixty-six. Some of the larger centres also had programs serving infants, toddlers, and school-age children, but these age groups were not included in the present study.

Eighty-seven caregivers signed letters of consent. All were permanent employees in one of the child care centres. Eight of these were later eliminated from the study because they were working with children under three, were on holidays, or were assigned to administrative duties at the time that the observations were made. Seventy-nine caregivers therefore formed the final sample for the study.

#### Recruitment and Training of Observers

Two observers were recruited and trained to assist the principal researcher. Both were graduate students in Educational Psychology at the Faculty of Education, University of Manitoba, specializing in Early Childhood. Both knew that the study involved the observation of caregiver-child interaction, but did not know any details of the hypotheses being investigated.

Training of the observers was carried out during free play times in the pre-school room of a downtown day care centre that

was not included in the study. After first discussing the definitions of the twenty-nine behavioural items on the instrument, the two observers and the principal researcher together observed actual caregiver behaviours and discussed how these should be coded on the instrument. Then, they jointly carried out several timed, two-minute observations but coded them as a group, discussing disagreements and clarifying interpretations of the definitions. Finally, coding individually but still comparing and discussing results, they carried out enough timed, two-minute trials to ensure that the coding of each observer was rapid and confident.

After this training the two assistants and the principal researcher ran five trials and established inter-observer reliability between each set of observers. For each trial, the number of items coded in the same category was divided by the total number of items on the instrument, and the resulting figure was multiplied by one hundred to get the percentage agreement between each pair of observers. The range over fifteen comparisons (five trials times three pairs of observers) was 93.1% to 100% for an overall inter-observer reliability rating of 97.7%. Again, at the end of the five trials any remaining sources of disagreement were examined and discussed.

After the first week, when 47% of the observations for the study had been completed, observer agreement was again tested by running another five trials at the same training centre. Inter-observer reliability was again calculated between each two of

the three observers, for a total of fifteen comparisons. This time, the range of inter-observer reliability ratings was 89.7% to 100% for an overall rating of 95.7%. Situations encountered in the field were also discussed to ensure that the three observers were still interpreting the definitions in the same way.

Finally, at the end of the second week of observations in the field, a final set of five trials was run. This third time, the range of observer agreement over the fifteen comparisons was 89.7% to 100% for an overall inter-observer reliability rating of 96.8%.

### The Observations

At each of the centres in the study, the interaction between caregivers and the children in their care was observed using the Caregiver Observation Form and Scale (COFAS) instrument (Feine, 1984), which focusses on the behaviour of the caregiver. Each of the seventy-nine caregivers was observed by one of the three trained observers (the principal researcher and two assistants). Each caregiver was observed for ten two-minute periods, or twenty minutes per caregiver. In each observation the children were three and four-year-olds engaged in indoor free play. All of the observations were completed during a three-week period. Each centre was visited by at least two of the three observers.

In carrying out the observations at each centre, each of the observers followed the same procedure. The observer entered the

centre, identified herself to the person in charge, and confirmed the identity of the target caregiver. The observer then introduced herself to the caregiver and, positioning herself as unobtrusively as possible within earshot of the caregiver, carried out the observation. A timer was used consisting of an ordinary digital watch with a countdown timer that beeped quietly when the time had expired and could be immediately reset, with the touch of a button, for another two-minute interval. The observer watched for two minutes, recorded the observations quickly, and then immediately reset the timer for the next two-minute interval. In this way the ten observations could be carried out in about thirty minutes.

Each caregiver was aware of the time set for the observation, and was instructed to carry on business as usual. Caregivers were told that their behaviour was not being judged, that their responses were simply being tallied to give an overall picture of what happened in typical caregiver-child interaction. Two of the centres had observation windows but these were not used so that conditions would be uniform throughout the study.

The observations did not appear to disrupt the activity of the adults or the children. With the press of duties and responsibilities that are typical of the Child Care Worker's job in day care, many of the caregivers seemed to forget who the observer was or why she was there. The observers did not initiate contact with any of the children and were minimally responsive if

approached by a child while at the centre. When the observation was completed, the observer thanked the caregiver, promised another contact by phone at a later date to arrange the interview, then either observed another caregiver or left the centre. Any queries that the caregivers had about the study were answered very generally.

### Centre Quality Ratings

While in the centres, the observers noted aspects of program quality, and after completing the scheduled visits to the centre, filled out a Centre Quality Rating Form. This form had previously been used by the three observers, following training sessions, to discuss and rate the quality of the centre that was used for the training sessions. The practice with the form was done to ensure that each observer interpreted the items on the form in the same way. The two (or in some cases three) quality ratings for each centre were compared and found to be very similar, but in all cases the rating by the observer who had spent the most time in the centre was taken as the quality measure for that centre.

### The Interviews

After all of the observations had been completed, each of the seventy-nine caregivers who had been observed was contacted in person or by phone and was interviewed using the Child Care



Worker Survey Form (see Appendix B). The interview form had previously been piloted with three caregivers at the centre used for training. Two caregivers were interviewed in person and one on the phone. This preliminary trial identified only one question that needed to be rephrased for clarity and established that the interview could be done with equal ease in person or by phone.

The interview took from fifteen to thirty minutes, depending on the caregiver's responses. Some caregivers were interviewed at work, either on their own time or their employers' time. In these cases, an effort was made to ensure that the caregiver was in a private place where they could speak freely, otherwise another time was scheduled for the interview. Other caregivers were interviewed at their homes in the evenings or on weekends. Most of the interviews were completed by the end of the five-week period following the observation period, but because of vacation schedules some of the interviews required an additional three weeks to complete. During this eight-week period, a surprising number of the caregivers (8 of them) had moved on to other jobs or were returning to school, reflecting the high turnover rate in this type of employment. Eventually, though, all were tracked down and interviewed.

The interview asked for a work history in Early Childhood programs and in other employment, details of education and training, hourly wage, level of satisfaction with different aspects of the job, age, number and ages of children and details of household composition and income.

### Data Analysis

Descriptive statistics and frequency analyses were computed for the interview data, to determine the characteristics of the caregivers as a group. These data were compared to other studies of caregiver characteristics.

Descriptive statistics were also computed for the COFAS scores and for other aspects of the observations i.e. absolute group size and number of children per adult.

Pearson Product Moment Correlations were calculated to explore the possible relationship between the COFAS score, or quality of interaction, and a number of other independent variables. Variables related to caregiver characteristics were: amount of work experience in early childhood education; number of years of schooling; and age of caregiver. Variables related to program organization were: average hourly wage of the caregiver; absolute group size; and number of children per adult.

Two one-way analyses of variance (ANOVA), for amount and type of training and for quality of the day care setting, were performed on the COFAS scores.

A two-way analysis of variance (ANOVA), with amount and type of training and quality of the day care setting as the two factors, was also performed on the COFAS scores.

## Results

### Characteristics of the Group of Caregivers Studied

Although the seventy-nine caregivers interviewed in the study ranged in age from eighteen to sixty-two, they were a relatively young group: they averaged 29 years with a median age of 26 years (see Table 1). Only 25.3% had children and only 16.5% had children under twelve (see Table 2).

Some characteristics of this group of caregivers are summarized in Table 1. The mean number of years of experience in early childhood education, was four and a half. They had worked in their present jobs an average of two years and eight months. They had an average of 14 years of schooling and earned an average hourly wage of \$8.68. These characteristics of the sample were similar to the characteristics found in other provincial and national studies of child day care workers (Schom-Moffatt, 1984; WMC Research Associates, 1985). Therefore, this group of seventy-nine caregivers could be considered a representative group.

Almost all of the caregivers (97.5%) were full time workers. More than three-quarters (77.2%) spent their total time at work directly caring for children. Another 15.2% spent three-quarters of their work time with the children (see Table 3).

The caregivers' satisfaction with various aspects of their jobs is summarized in Table 4. Their overall level of job satis-

Table 1

## Characteristics of Caregivers

---

	mean	sd	range
present job (mos.)	32.38	26.91	2-114
ECE experience (mos.)	53.62	39.93	2-204
average hourly wage	\$8.68	\$2.04	4.80-15.28
years of schooling	14.13	1.98	10-21
age	29.31	8.50	18-62

Table 2

## Children of Caregivers

---

Do you have children?	number	percent
<hr/>		
no answer	1	1.3%
no	58	73.4%
yes	20	25.3%
	<hr/>	<hr/>
	79	100.0%

---

Do you have children under 12?	number	percent
<hr/>		
no answer	1	1.3%
no	65	82.3%
yes	13	16.5%
	<hr/>	<hr/>
	79	100.0%

Table 3

## Proportion of Work Time Spent with Children

		number	percent
A	one-quarter	1	1.3%
B	one-half	5	6.3%
C	three-quarters	12	15.2%
D	total	61	77.2%
		----	-----
		79	100.0%

Table 4

## Satisfaction with Various Aspects of the Job

-----		
General Satisfaction	number	percent
-----		
A very satisfied	44	55.7%
B somewhat satisfied	31	39.2%
C somewhat dissatisfied	4	5.1%
D very dissatisfied	0	0.0%
	---	-----
	79	100.0%
-----		
Satisfaction with Income	number	percent
-----		
A very satisfied	3	3.8%
B somewhat satisfied	33	41.8%
C somewhat dissatisfied	21	26.6%
D very dissatisfied	22	27.8%
	----	-----
	79	100.0%

Table continues

Table 4 (continued)

---

Satisfaction with Chance for Advancement

	number	percent
A very satisfied	9	11.4%
B somewhat satisfied	34	43.0%
C somewhat dissatisfied	28	35.4%
D very dissatisfied	8	10.1%
	-----	-----
	79	100.0%

---

Satisfaction with Benefits

	number	percent
A very satisfied	34	43.0%
B somewhat satisfied	27	34.2%
C somewhat dissatisfied	13	16.5%
D very dissatisfied	5	6.3%
	-----	-----
	79	100.0%

Table continues



Table 4 (continued)

---

Satisfaction with Working Conditions

	number	percent
<hr/>		
A very satisfied	44	55.7%
B somewhat satisfied	21	26.6%
C somewhat dissatisfied	9	11.4%
D very dissatisfied	5	6.3%
	<hr/>	<hr/>
	79	100.0%

---

Would you choose same occupation again?

	number	percent
<hr/>		
A the same	49	62.0%
B different	28	35.4%
C not sure	2	2.5%
	<hr/>	<hr/>
	79	100.0%

faction was high. Forty-four (55.7%) said they were "very satisfied" with their jobs; thirty-one (39.2%) said they were "somewhat satisfied"; and only four (5.1%) said they were "somewhat dissatisfied". None were "very dissatisfied".

Income was the only aspect of the job that most of the respondents expressed dissatisfaction with: only three (3.8%) were "very satisfied"; thirty-three (41.8%) were "somewhat satisfied"; while twenty-one (26.6%) were "somewhat dissatisfied"; and twenty-two (27.8%) were "very dissatisfied".

Forty-nine (62.0%) said that they would choose the same occupation, if they had it to do over. Twenty-eight (35.4%) said they would choose something different. Two were unsure what they would do.

Fourteen (17.7%) of the respondents held other jobs in addition to their day care jobs, presumably to supplement their generally low wages. Only thirty-two (40.5%) of the respondents were the principal income earner in their household and of these, eighteen reported an economic unit or household of one. Many of the respondents considered their income from work in day care as supplementary income and commented that it could not support a family. Fifty-eight (73.4%) reported other sources of income in their household (see Table 5).

Results from the question about formal qualifications, show a considerable variety in the group. Twenty-three (29.1%) of the group had no certificate, diploma, or degree in early childhood development or care. Eleven (13.9%) had the Child Care Services

Table 5

## Caregiver's Financial Situation

-----		
Holding other jobs?	number	percent
-----		
no answer	1	1.3%
no	64	81.0%
yes	14	17.7%
	-----	-----
	79	100.0%
-----		
Other sources of income?	number	percent
-----		
no answer	1	1.3%
no	20	25.3%
yes	58	73.4%
	-----	-----
	79	100.0%
-----		
Are you principal income earner?	number	percent
-----		
no answer	1	1.3%
no	46	58.2%
yes	32	40.5%
	-----	-----
	79	100.0%

Certificate (the one-year Community College program), while twenty-four (30.4%) had the two-year, Community College, Child Care Services Diploma. Of the twenty-one respondents who had degrees, eight (10.1% of the total group) had degrees directly related to early childhood development, while thirteen (16.5%) had degrees only indirectly related to early childhood development. A rather large percentage of the group (38.0% or thirty respondents) were enrolled in programs toward a certificate, diploma, or degree, related to early childhood (see Table 6).

For the purpose of analysing the effect of type and amount of training on caregiver-child interaction, the caregivers were divided into three groups: Group 1, the "untrained" group, included the twenty-two caregivers who had little or no formal training; Group 2, the "mixed" group, included the thirty-one caregivers who had various amounts and types of training; and Group 3, the "trained" group, included the twenty-six caregivers who had completed the two-year, Community College Diploma, the kind of specific child care training which has been shown to be associated with positive child outcomes.

Although the provincial classification of Child Care Workers used in Manitoba is based on training, changes in policy over time have made the classifications less than uniform. Provincial classification of the caregivers included in the study is presented in Table 7.

Twelve of the seventy-nine caregivers (15.2%) reported that they were classified as Child Care Worker I's (CCW I). These

Table 6

## Formal Qualifications

Certificate, Diploma, Degree?	number	percent
A none	23	29.1%
B certificate	11	13.9%
C diploma	24	30.4%
D indirectly related degree	13	16.5%
E directly related degree	8	10.1%
	79	100.0%
Currently taking courses	number	percent
no	49	62.0%
yes	30	38.0%
	79	100.0%

Table 7

## Worker Classification

	number	percent
A Child Care Worker I	12	15.2%
B Child Care Worker II	30	38.0%
C Child Care Worker III	37	46.8%
	79	100.0%

individuals had completed the minimum forty hours of training required for a child care worker. Some may have also completed further training but not enough to result in a higher classification.

Thirty of the group (38.0%) were classified as Child Care Worker II's (CCW II). These persons included ten workers (12.7% of the total group) who had been "grandfathered" into this classification when the Child Day Care Branch began classifying workers in day care in 1984. (At that time, people with prior experience in day care were given eight weeks of training and granted the classification of Child Care Worker II, which in later years would require a full year of specialized Child Care Worker Training at a Community College.) These ten, plus the twelve CCW I's were considered to be "untrained" for the purposes of the study and constituted Group 1 for the statistical analysis.

The remaining twenty (25.3% of the total group) who reported their classification as CCW II, either had a one-year Certificate, or a combination of other training, courses, and experience, that was roughly the equivalent. Since the definition of the one-year equivalency had changed over the years from 1984 to 1988, this group included some individuals with varying amounts of child care training and some individuals with university degrees not related to child care. For the purposes of analysis, these twenty were included in the "mixed" group or Group 2.

Also included as part of Group 2 were eleven individuals

classified as Child Care Worker III's (CCW III) who, during the "grandfathering" phase, had been given that classification on the basis of a university degree that was somewhat related to child care. These individuals were included in the "mixed" group since it was impossible to determine retrospectively how their varied amounts and types of education compared to the two-year diploma. The classification by itself was not a reliable guide since the same degree would have resulted in two different classifications at different times.

Twenty-six of the CCW III group (32.9% of the total group) had completed a two-year, Child Care Services Diploma, at a community college. This last group were the only ones who had at least two years of specific child care training, the kind of training that has been associated with positive child outcomes (Ruopp et al., 1979). This was considered the "trained" group, called Group 3 and compared statistically with the "mixed" and the "untrained" groups.

### The Observations

During the time periods when the observations were made, the absolute group size (total number of children present) ranged from two to twenty-eight children and the mean was 11.65 children. The number of children per caregiver ranged from one to sixteen and the mean was 4.86 children. The COFAS scores, measures of the quality of caregiver-child interaction, ranged



Table 8

## Aspects of Observation Situations

	mean	sd	range
absolute group size	11.65	5.94	2-28
no. of children/adult	4.86	1.98	1-16
COFAS score	149.18	35.15	17-205

from a low of seventeen to a high of 205, with a mean of 149.18. These figures are presented in Table 8.

### Correlations

Correlations were not significant between the COFAS score (quality of caregiver-child interaction) and each of the following variables:

- 1) the length of time that the caregiver had worked in early childhood education (0.02  $p=0.89$ );
- 2) the average hourly wage of the caregiver (0.18  $p=0.11$ );
- 3) the number of years of schooling of the caregiver (0.11  $p=0.66$ );
- 4) the age of the caregiver (-0.09  $p=0.57$ );
- 5) the absolute group size or number of children in the room (-0.15  $p=0.18$ ).

These results have implications for the effect that different factors have on the quality of caregiver-child interaction. First, they imply that caregivers with more experience do not necessarily have better quality interaction with the children in their centres, compared to caregivers with less experience. Second, the amount of money paid to a caregiver was not related to the quality of that caregiver's interaction with children. Third, the caregiver's number of years of schooling had no relation to quality of interaction with the children. Fourth, the age of the caregiver was not related to the quality of the

interaction. Fifth, the absolute group size, in the range investigated (2-28), was not related to the quality of the interaction between the caregiver and the child.

There was, however, an inverse relationship ( $-0.38$ ) between the COFAS score and the number of children per caregiver, that was statistically significant ( $p=.001$ ). This suggests that one aspect of the caregiving environment that does relate to the quality of the caregiver-child interaction, is the number of children per adult, with fewer children per adult correlating with higher quality of interaction.

#### Analysis of Variance

A one-way analysis of variance (ANOVA) for type of training was performed on the COFAS scores. The subjects were divided into three groups according to their type and amount of training, as explained more fully above. Group 1 were the "untrained" group ( $n=22$ ); group 2 had various amounts and types of training and were called the "mixed" group ( $n=31$ ); group 3 had at least two years of specific child care training and were called the "trained" group ( $n=25$ ). Means on the quality of interaction measure (COFAS score) for the three groups were: group 1 ("untrained") 137.50; group 2 ("mixed") 144.45; and group 3 ("trained") 165.32. Statistically significant differences ( $F=4.44$   $p=.015$ ) were found between group 1 and group 3 ( $p=.007$ ) and between group 2 and group 3 ( $p=.024$ ). The group statistics and

Anova summary table are presented in Table 9.

These results suggest that there is a significant difference in the quality of caregiver-child interaction between caregivers who have the most, specific child care training and caregivers who have either less, specific child care training or none at all. The "trained" caregivers of group 3 engaged in interactions that were of significantly better quality than the interactions engaged in by the caregivers in the other two groups.

There was no significant difference on the measure of interaction quality (COFAS score) between group 1 and group 2, suggesting that lesser amounts of specific child care training were not sufficient to affect the quality of caregiver-child interactions.

There was also less variability in the group 3 scores ( $sd=17.33$ ) than in the scores of the other two groups, and less variability in the group 2 scores ( $sd=36.33$ ) than in the group 1 scores ( $sd=43.29$ ), suggesting that training creates a more consistent level or quality of interaction than tends to be present in an untrained worker.

A second one-way analysis of variance (ANOVA) for quality of day care setting in which the observation took place was performed on the COFAS scores. For interactions in centres rated as "excellent" ( $n=23$ ) the mean of the quality of interaction variable (COFAS scores) was 170.65 ( $sd=14.57$ ). In centres rated as "adequate" ( $n=41$ ) interactions yielded a mean COFAS score of 146.10. Here, the standard deviation of 30.88 shows

Table 9

The Effect of Training on Quality of Interaction

-----					
Anova Summary Table					
Source of		Sum of	Mean		Significance
Variation	DF	Squares	Squares	F	Level
-----					
Between groups	2	10206.87	5103.44	4.44	0.015
Within groups	75	86146.62	1148.62		
Total	77	96353.49			
-----					
		N	Mean		SD
-----					
Group 1	"untrained"	22	137.50		43.29
Group 2	"mixed"	31	144.45		36.33
Group 3	"trained"	25	165.32		17.33

T-test Between Group Means (a two-tailed test)

-----		
t=2.81	p=.007	Group 1 & Group 3
t=2.29	p=.024	Group 2 & Group 3

more variability in scores in these settings. In centres rated as "poor" (n=14) the mean COFAS score was 122.93, and the standard deviation of 50.30 showed even greater variability.

Statistically significant differences ( $F=10.22$   $p<.0001$ ) were found between each of the three groups. There was a significant difference in quality of interaction between "excellent" centres and "adequate" centres ( $p=.005$ ), between "excellent" and "poor" centres ( $p<.0001$ ), and between "adequate" and "poor" centres ( $p=.021$ ). Group statistics and Anova summary table are presented in Table 10.

The results suggest that the quality of the child care setting, as well as the training of the caregiver, has an effect on the quality of the caregiver-child interaction. In better quality settings there was better quality interaction and the quality of the interaction declined dramatically with decline in the quality of the setting.

In order to determine the interaction of the two strong effects that were found, for specific child care training, and for the overall quality of the child care setting, a two-way analysis of variance ( $2 \times 3$ ), with training and quality as the factors, was performed on the COFAS scores.

For this analysis, the middle group of caregivers, with some or mixed amounts and types of training, was eliminated from the analysis, so that the effects of training and quality of setting could be investigated without the ambiguous data of this group. The analysis showed statistical significance for training

Table 10

The Effect of Overall Quality of the Child Care Setting on  
Quality of Interaction

---

Anova Summary Table					
Source of		Sum of	Mean		Significance
Variation	DF	Squares	Squares	F	Level
Between Groups	2	20641.73	10320.87	10.22	0.0001
Within Groups	75	75711.76	1009.49		
Total	77	96353.49			

---

		N	Mean	SD
Group 1	"excellent"	23	170.65	14.57
Group 2	"adequate"	41	146.10	30.88
Group 3	"poor"	14	122.93	50.30

---

T-test Between Group Means (a two-tailed test)

---

t=2.97 p=.005      Group 1 & Group 2  
t=4.43 p=.0001      Group 1 & Group 3  
t=2.36 p=.021      Group 2 & Group 3

Table 11

The Effect of Quality of Setting and Training on Quality of Caregiver Child Interaction

Row		N	Mean	SD
1	"untrained"	22	137.50	42.29
2	"trained"	25	165.32	16.98
Total		47	152.30	34.40

  

Column		N	Mean	SD
1	"excellent"	17	173.59	15.40
2	"adequate"	23	147.04	29.50
3	"poor"	7	117.86	46.16
Total		47	152.30	34.40

Anova Summary Table

Source of Variation	DF	Sum of Squares	Mean Squares	F	Significance Level
Column	2	5267.67	2633.84	3.30	0.046
Row	1	3649.31	3649.31	4.57	0.036
Interaction	2	3749.23	1874.62	2.35	0.106
Residual	41	32740.07	798.54		
Total	46	45406.28			



( $F=3.30$   $p=.046$ ) and for quality of setting ( $F=4.57$   $p=.036$ ) but not for the interaction of these two factors. Descriptive statistics and Anova summary table for this analysis are presented in Table 11.

The results suggest that both the presence of specific child care training and the overall quality of the child care setting are important determinants of quality of interaction but that the two factors do not work together directly to enhance or to detract from, the quality of interaction.

## Discussion

### The Question of Quality in Early Childhood Programs

Viewed most broadly, this study explored some relationships among quality care issues in out-of-home child day care programs. The investigation of quality is important because the number of preschool children in need of daily, non-familial care in Canada, in 1988, has been estimated at two million, while there are licensed spaces in homes and centres to accommodate only about 244,000 (Special Committee on Child Care, 1987). Whatever policy choices are made about the types of care to be sponsored, therefore, pressure will continue to expand spaces and to increase the total funding for child care. Research is necessary into the essential components of high quality programs. We cannot rely on common sense approaches. Some past policies have been shown to be mistaken. For example, the idea that full-time maternal care in the child's home was essential to the child's well-being, governed much family policy in the fifties and still influences the thinking of many people, in spite of the lack of research support. Research must inform policy decisions about child care standards in facilities, programming, worker qualifications, and funding formulae.

Efforts to identify the nature of program quality first concentrated on comparing the outcomes for children who experienced different program types. It was found that there were no

significant differences between groups of children who had been cared for at home by their mothers and children who had been in day care programs (Belsky & Steinberg, 1978). Also, no consistent pattern of differences was found between children who had been in centre care and children who had been in family or home day care (Snow, 1983). There seemed to be more differences within program types, than between program types, and it was these differences in program aspects or elements, such as staff to child ratios, or number of square feet of play space per child, that were then investigated to see if their presence or absence had an effect on outcomes. This was done in at least two ways: by measuring overall quality against outcomes in the Bermuda studies (McCartney, 1984; McCartney et al., 1982); and by measuring the effect of individual program elements in the National Day Care Study (Ruopp et al., 1979).

In the Bermuda studies, child outcomes were compared for centres of different overall quality. There seemed to be a relationship between higher quality centres and better child outcomes. The National Day Care study attacked the problem in a different way, by asking what qualities in a program were related to positive outcomes. The quality indicators identified in this way, absolute group size, ratios, caregiver training, were subsequently used in other studies to investigate the effect of the differences, within programs of differing quality. The quality of the caregiver-child interaction in the program seemed to be affected by several factors and mediated between certain

quality indicators and certain desirable child outcomes.

### The Contribution of the Present Study to the Quality Question

The present study began by asking questions about how the training of caregivers affected the quality of care provided in a day care setting and, implicitly, how that affected child outcomes. As outlined above, the questions for investigation became:

- 1) Does prior, specific child care training enhance the quality of the caregiver's interaction with the child?
- 2) Do other characteristics of the caregiver such as age, years of experience, or years of formal schooling, also have an effect on the quality of caregiver-child interaction?
- 3) Do other specific aspects of program organization or functioning, such as ratios, group size, or average hourly wage, also have an impact on the quality of caregiver-child interaction?
- 4) Is overall quality of the program a more important consideration than any specific aspect such as caregiver training?

The literature on quality suggests that caregiver-child interaction does have an impact on child outcomes, and that the quality of the interaction may be related to the prior training of the caregiver. Individuals who work in day care are untrained,

or have one of two different types of training. Either they have completed a community college diploma course in child care, or they have taken university courses or a university degree in some area related to the field. The university programs may contain elements related to child study and to programming for young children but, at the present time, there are only a few undergraduate programs in the country that are designed specifically to train people to work in early childhood development programs. The community or technical college programs are focussed on young children, and provide specific and practical training for working with them. Positive outcomes for children have been associated with programs where the caregivers have this type of training, even when compared with outcomes where programs employ people with more years of formal education or university degrees.

For the purposes of this study, persons who had completed the two-year college diploma in Child Care Services were considered to have the preferred type and amount of training and called the "trained" group. Individuals who had very little or no training or had been "grandfathered" into the system based on years of experience, were grouped together and called the "untrained" group. For some of the analysis there was also a middle group who had such diverse types and amounts of training that they could not readily be classified in terms of training and were called the "mixed" group. They had some training, but not of the preferred type or amount.

The characteristics of the entire group suggest that it was

representative of the population of child care workers in government funded programs in Manitoba. Their average age, hourly wages, and years of schooling were similar to the characteristics of other groups of child care workers who have been studied, both across Canada and in Manitoba (Schom-Moffatt, 1984; WMC Research Associates, 1985).

### The Training-Quality Connection

The COFAS score for each caregiver, used in this study as a measure of the quality of caregiver-child interaction in the child care setting, ranged widely from a low of seventeen to a high of two hundred and five. Sixty-five of the subjects had scores in the range that Fiene (1984) considered to indicate acceptable care for children, a score between one hundred and thirty and two hundred and thirty. The mean score for the group (149.18) is also well within this range.

Even if adequate, however, this is quite a broad range of quality of care. It goes all the way from care that would be considered barely adequate to ensure the child's development, to care that shows an unusual level of skill and understanding in meeting the needs of young children. The results suggest that, while the standard of care observed in the nineteen centres in which observations were made may not be outstanding in all cases, it is at least adequate. This would certainly be expected in centres that are provincially licensed and regularly inspected to

ensure that they meet regulations.

That the system of licenses and inspections has not created a uniformly high standard of care is demonstrated by the presence of fourteen (17.7%) caregivers in the study whose scores placed them below the "adequate" category; eight caregivers, with scores between ninety and one hundred and twenty-nine, who would be considered to be providing only a "fair" standard of care; and six caregivers who, with scores between one and eighty-nine, would be considered to be providing "poor" care.

While the numbers here may seem small, it should be remembered that each caregiver is responsible for up to nine children at this age range, and that observations were done at only a small percentage of the centres in Winnipeg. If seventeen percent of all caregivers in Winnipeg were providing this less-than-adequate level of care, a large number of children would be negatively affected. Since the analysis of the data shows that the "trained" group of caregivers provided a significantly better quality of care than the "untrained" group, it seems reasonable to suggest that regulations should require a certain type and amount of specific child care training for persons who work with young children in day care settings. The policy of the Child Day Care Branch of Family Services in Manitoba, to gradually phase in the training requirement in all child care settings is the first comprehensive attempt to regulate the training of day care workers in Canada, and should be considered as a model for other jurisdictions.

The analysis which showed the difference in quality of interaction between the "trained" and the "untrained" groups was the major attempt to answer the main question in the study: "Does prior, specific child care training enhance the quality of the caregiver's interaction with the child?". The answer seems to be a resounding "Yes!". Significant differences were found between the "trained" group and both the "mixed" and the "untrained" groups.

The presence of training made a difference in the quality of caregiver-child interaction but the training that made the difference was of a certain type and amount. This means that the quality of interaction was positively affected by the attainment of the two-year college diploma which focuses on preparing individuals to work with young children, specifically three- to five-year-olds, in a child care setting. The substitution of other types and amounts of training or education, whether it was smaller amounts of specific training or a different type of training such as university courses, was not sufficient to produce a quality of care significantly better than that provided by the "untrained" group. There was no significant difference between the quality of interaction provided by the "untrained" group and that provided by the "mixed" group. Individual caregivers in the "mixed" group may have provided excellent care but as a group the standard of care that they provided was not significantly better than the "untrained" group.

The difference in quality of interaction between the



"untrained" and the "trained" groups was statistically significant but it was a practical difference as well. The mean score for the "untrained" group (137.50) was just barely within the range of scores considered acceptable (130-230) and the large standard deviation (43.29) means that a large part of the group would have had scores that were below the acceptable range. The mean score for the "trained" group (165.32) was considerably higher in the range, where each point awarded on the COFAS instrument meant the presence of a generally lightly-weighted positive action or the absence of a more heavily-weighted negative action. The smaller standard deviation for this group (17.33) also means that ninety-eight percent of this group had scores within the acceptable range.

#### The Effect of Other Caregiver Characteristics

The importance of the training-quality connection is reinforced by the fact that other caregiver characteristics, in this case, years of experience, years of formal education, and age, were shown to have no relationship to the quality of care provided.

The simple accumulation of experience in the early childhood field was no guarantee of better quality care. The total number of months of experience in the field of early childhood education that a caregiver had, for example, showed no significant relationship to the quality of his or her interaction with

the children. This suggests that the skills and understandings needed for work with young children cannot be learned exclusively on the job. It also suggests that skills are not transferred from trained to untrained workers in the course of their work alongside one another. At present each centre in Manitoba is required to employ a certain percentage of trained child care workers. If skills were readily transferred this would insure a higher standard of care. The results seem to imply, however, that all day care workers should be trained, rather than a certain percentage, as is currently the regulation.

Another interesting finding was that the years of formal schooling that a caregiver had was not related to the quality of the care that he or she provided. Specific child care training, and not formal education, per se, seemed to be the key to quality care. Note, though, that the range of education was small; none of the caregivers had less than ten years of formal education and the mean was fourteen years (and standard deviation 1.98). The question cannot yet be answered definitively for significantly lower amounts of formal schooling.

The age of the caregiver also showed no significant relationship to the quality of care that he/she provided. Maturity of outlook or life experience did not ensure quality of care, but neither did the freshness of a "youthful approach" to child care. It is possible that a larger sample might show a relationship. The majority of this group were between the ages of twenty and forty, a very narrow range. However, since this age range is

typical of the occupation as a whole, the results suggest that it might not even be possible to investigate the effect of age, given current demographics.

Generally, the fact that these other caregiver characteristics were found to have no relationship to the quality of the caregiver-child interaction, makes the training-quality connection even more important as an avenue where regulations can have a positive effect on ensuring the quality of care provided in child care settings.

#### The Effect of Some Aspects of Program Organization

There was no relationship between the average hourly wage paid to the caregiver and the quality of care that he/she provided. It seems that higher pay does not guarantee a better quality of care at least in the rather limited range of pay found in this study. The majority of the caregivers earned an hourly wage between \$6.64 and \$10.72. Not surprisingly, when asked about their greatest source of satisfaction in the job, they invariably talked about the children and families that they served, not their salaries. Many of them did not know what their hourly wage was and had to figure it out or ask someone for the information. Many commented that people who work in day care do not do the job primarily for the money, although many are finally forced to leave because of the low wages.

Findings also showed no relationship between the absolute

group size or total number of children in the room or designated area, and the quality of interaction. Other studies, however, have found this relationship. It was probably not evident in the present study because the provincial regulations limit group size. The upward extreme in this variable was simply not observed, even though, in a few cases, the number of children present clearly did exceed the regulation limit of sixteen to twenty for the age range observed.

A significant inverse relationship was found, however, between quality of interaction and one aspect of program organization, the number of children per caregiver. Larger numbers of children per caregiver had a negative effect on the quality of the interaction between that staff person and the children. This was not simply a matter of the quantity of interaction available to each child either, since the instrument records and quantifies all of the interaction that the caregiver engages in, whether it is with two children or with six. When there were more children present, the caregiver engaged in fewer positive actions, and/or in more neutral and negative actions, resulting in a lower score on the observation instrument.

This kind of negative relationship has been found in many other studies, especially where the children cared for are under three years of age and when the higher extremes of the ratios were included in the study. The National Day Care Study found that absolute group size was a more important factor than the ratio, but only looked at situations where the ratios were nine

to one or less. In the present study ratios of up to sixteen to one were observed, even though regulations forbid anything over nine to one for this age group. These results simply reinforce the importance of numbers in the provision of quality care. When the caregiver has to care for too large a group of children, he/she is less able to answer questions, follow up comments, address remarks to children, show physical affection, read or sing with the children, or do any of a wide range of actions with the child that contribute to quality care. The caregiver ends up spending more time on controlling the children individually or in a group, arranging the room, providing routine physical care, and engaging in negative interactions.

#### The Effect of Overall Program Quality

The final question asked in this study is whether overall program quality is a more important consideration than any specific variable such as caregiver training. Results showed that the overall quality rating of the centre had a significant effect on the quality of interaction that was observed in that centre. There were significant differences in quality of interaction between the "excellent" centres and those that were rated "adequate", as well as between the "adequate" and the "poor" centres. The large numerical difference in the mean scores suggests that the statistical difference is also a readily apparent practical one as well.

The results suggest that centre quality is an important determinant of the quality of caregiver-child interaction but it is also possible that many of the best trained caregivers were clustered at the better quality centres. To determine whether this was true the two-way analysis of variance was performed, to examine each effect while controlling for the other. The result of this analysis showed that each of the main effects was still significant even when the effect of the other was controlled for. Both centre quality and caregiver training are important factors in ensuring the quality of caregiver-child interaction.

The analysis also showed that there was no interaction between the two effects. A trained caregiver interacted well with children whatever the overall quality of the centre. A good centre enhanced interaction no matter what the training level of the staff.

Experts have always said that the caregiver was the key to good quality care for children and this research supports this idea. It also suggests, however that the overall quality of other aspects of the centre can, to some extent, make up for a lack of training in the staff. Perhaps this works because a director with strong leadership skills could set clear performance objectives and high standards for her staff. They could be challenged to provide excellent care, and given guidance to develop child care skills, even in the absence of specific child care training.

The leadership and working philosophy of the director may,

in fact, be seen as an important third factor that enables or encourages the trained caregiver to provide high quality care, or in the absence of trained staff provides other quality aspects of care that support a higher quality of interaction. This speculation is consistent with the findings of many of the studies in the effective schools literature. The quality of instruction provided by individual teachers was found to be important for child outcomes but the climate of the school, largely determined by the leadership of the principal, was also found to be important, independent of the quality of individual teachers.

## Conclusion

Although the study suffered from some limitations, and it may not be possible to generalize the findings outside of the urban, regulated child care environment, the results suggest some conclusions that have policy implications for the child care field.

The most important characteristic of the prospective child care worker is neither age, nor years of formal schooling, nor years of experience, but the type and amount of child care training that he or she has. Specific child care training, such as the two-year community college diploma in child care, is a more desirable qualification than a university degree in a related field, unless that degree has been shown to provide the equivalent in specific child care training or better.

Current Manitoba regulations stressing specific training are certainly supported by this research. Even more careful attention to the question of the equivalence of different types of training may be indicated.

If it were possible to determine which aspects of specific child care training contributed the most to quality care, it might be possible to offer these elements as a supplement to other types of training. Possibly, techniques for cognitive, language, and social-emotional stimulation, and how these techniques are learned, might be a fruitful area for investigation in this regard.



Favourable child to staff ratios and limits on absolute group size are both important supports to high quality caregiver-child interaction. Both should be maintained at a level above prescribed limits.

Overall program quality should remain a major concern of provincial authorities, but this concern may have to go beyond a simple application of regulations. The poorest program in the study was still, for the most part, in compliance with the regulations. Facilities, food service, health and safety are already carefully regulated, but by themselves will not guarantee more than an adequate custodial program that meets the physical needs of the children. Less tangible elements of the program should be examined, once the basic health and safety of the children is assured. The stated and implicit goals of a program reveal its underlying philosophy and will shape expectations of and reactions to children's behaviour. The adequacy of program planning and implementation will reveal the quality of leadership at the centre. The social and emotional environment, created by the interaction of the caregivers with the children, will be the outgrowth of the two elements above, as well as the individual skill level of the caregiver. Measures of the above elements of program operation, and perhaps specifically of caregiver-child interaction, may be a useful adjunct to the application of existing regulations.

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## B. Curriculum *continued*

### CRITERION

### RATING

### COMMENTS

**B-5a. Multiracial, nonsexist, nonstereotyping pictures, dolls, books, and materials are available.**

Not  
met

1

Partially  
met

2

Fully  
met

3

**B-5b. Developmentally appropriate materials and equipment are available for infants.**

- ☐ Rattles, squeak toys, music.
- ☐ Cuddly toys.
- ☐ Teething toys.
- ☐ Mobiles, unbreakable mirrors, bright objects and pictures.
- ☐ Infant seats, crawling area, sturdy furniture to pull up self.

1

2

3

☐ Not applicable

**B-5c. Developmentally appropriate materials and equipment are available for toddlers.**

- ☐ Push and pull toys.
- ☐ Stacking toys, large wooden spools/beads/cubes.
- ☐ Sturdy picture books, music.
- ☐ Pounding bench, simple puzzles.
- ☐ Play telephone, dolls, pretend toys.
- ☐ Large paper, crayons.
- ☐ Sturdy furniture to hold on to while walking.
- ☐ Sand and water toys.

1

2

3

☐ Not applicable



## B. Curriculum *continued*

CRITERION	RATING			COMMENTS
	Not met <b>1</b>	Partially met <b>2</b>	Fully met <b>3</b>	
<b>B-5d. Developmentally appropriate materials and equipment are available for preschoolers.</b>				
<input type="checkbox"/> Active play equipment for climbing and balancing.				
<input type="checkbox"/> Unit blocks and accessories.				
<input type="checkbox"/> Puzzles, manipulative toys.				
<input type="checkbox"/> Picture books and records, musical instruments.				
<input type="checkbox"/> Art materials such as finger and tempera paints, crayons, scissors, paste.				
<input type="checkbox"/> Dramatic play materials such as dolls, dress-up clothes and props, child-sized furniture, puppets.				
<input type="checkbox"/> Sand and water toys.				
<b>B-5e. Developmentally appropriate materials and equipment are available for school-agers.</b>				
<input type="checkbox"/> Active play equipment and materials such as bats and balls for organized games.				
<input type="checkbox"/> Construction materials for woodworking, blocks.				
<input type="checkbox"/> Materials for hobby and art projects, science projects.				
<input type="checkbox"/> Materials for dramatics, cooking.				
<input type="checkbox"/> Books, records, musical instruments.				
<input type="checkbox"/> Board and card games.				

☐ Not applicable

☐ Not applicable

## B. Curriculum continued

### CRITERION

**B-7. Staff provide a variety of developmentally appropriate hands-on activities for children to achieve the following goals:**  
*(Rate each goal separately considering the examples related to the age group being observed.)*

**B-7a. Foster positive self-concept.**

#### RATING

Not  
met

1

Partially  
met

2

Fully  
met

3

#### COMMENTS

*For example:*

#### Infants/younger toddlers

Hold, pat, and touch babies for comfort and stimulation.

Talk and sing to babies.

Imitate each baby's actions and sounds.

Play mirror games, label facial features and body parts.

Allow infants to feed themselves when ready.

Encourage and support each baby's developmental achievements such as pulling up self.

#### Older toddlers/preschoolers

Allow time for children to talk about what they see, do, and like.

Use children's names frequently in songs, games.

Display children's work and photos of children.

Encourage children to draw pictures, tell stories about self and family.

#### School-agers

Provide opportunities to express growing independence/self-reliance such as the ability to make choices, initiate own activities.

Allow opportunities to work or play alone.

**B-7b. Develop social skills.**

1

2

3

*For example:*

#### Infants/younger toddlers

Hold, pat, and touch babies.

Talk to, sing to, and play with each baby on a one-to-one basis.

Respond to and expand on cues coming from child.

Interpret infants' actions to other children to help them get along in the group ("Mary had it first,").

#### Older toddlers/preschoolers

Assist toddlers in social interaction.

Create space and time for small groups of children to build blocks together or enjoy dramatic play.

Provide opportunities for sharing, caring, and helping, such as making cards for a sick child or caring for pets.

#### School-agers

Arrange planned and spontaneous activities in team sports, group games, interest clubs, board and card games.

Allow time to sit and talk with friend or adult.

## B. Curriculum continued

CRITERION	RATING			COMMENTS
	Not met 1	Partially met 2	Fully met 3	
<b>B-7c. Encourage children to think, reason, question, and experiment.</b>				

*For example:*

### Infants/younger toddlers

Provide a stimulating, safe environment for infants and toddlers to explore and manipulate.

Provide pictures, mobiles, brightly colored objects for babies to look at, reach for, and grasp.

Play naming and hiding games such as peek-a-boo, pat-a-cake.

Provide rattles, squeak toys, other noise-making objects for babies to hear.

Move or carry around noncrawling infants so they can see different things and people.

### Older toddlers/preschoolers

Plan activities for labeling, classifying, sorting objects by shape, color, size.

Discuss daily and weekly routines in terms of time concepts, season of the year.

Observe natural events such as seeds growing, life cycle of pets.

Create opportunities to use numbers, counting objects.

Take walks around building or neighborhood.

Plan trips to provide new learning experiences for preschoolers.

Encourage water and sand play.

### School-agers

Provide activities such as cooking, money-making projects, gardening, science experiments, trips in the community, interacting with visitors, multicultural experiences, computer projects.

### B-7d. Encourage language development.

1	2	3
---	---	---

*For example:*

### Infants/younger toddlers

Look at simple books and pictures. Talk to, sing to, and play with babies throughout the day.

Label objects and events.

Use action rhymes.

Encourage imitation by repeating child's gestures and attempts at words.

Play verbal games, have informal conversations.

Respond to sounds infant makes.

### Older toddlers/preschoolers

Read books, tell stories about experiences, talk about pictures.

Provide time for conversation, ask child questions that require more than a one-word answer.

Answer children's questions.

Add more information to what child says.

Label things in room, use written words with pictures and spoken language.

Use flannel board, puppets, songs, finger plays.

### School-agers

Provide opportunities to read books.

Write and produce plays, publish newspapers, write stories.

Share experiences with friends or adults.

Use audio-visual equipment such as tape recorders.

Make own filmstrips.

## B. Curriculum continued

CRITERION	RATING			COMMENTS
	Not met 1	Partially met 2	Fully met 3	
<b>B-7e. Enhance physical development.</b>  <i>For example:</i>  <b>Infants/younger toddlers</b> Provide open carpeted space for crawling. Provide low sturdy furniture for child to pull up self or hold on to while walking. Provide outdoor activities for infants. Provide objects for infants to reach for and grasp. Allow mobile infants to move about freely, play with and explore the environment.	1	2	3	
<b>B-7f. Encourage and demonstrate sound health, safety, and nutritional practices.</b>  <i>For example:</i>  <b>All ages</b> Cook and serve a variety of nutritious foods. Discuss good nutrition. Do activities to develop safety awareness in the center, home, and community. Encourage health practices such as washing hands, brushing teeth, getting regular exercise and enough rest. Talk about visiting doctor, dentist.	1	2	3	
<b>B-7g. Encourage creative expression and appreciation for the arts.</b>  <i>For example:</i>  <b>Infants/younger toddlers</b> Encourage scribbling with crayons. Use music, records. Sing to baby.	1	2	3	
<b>Older toddlers/preschoolers</b> Provide time and space for active play such as jumping, running, balancing, climbing, riding tricycles. Provide creative movement activity using obstacle course or activity songs and records. Provide fine-motor activities such as stacking rings, popbeads, pegboards, and puzzles for toddlers; add lacing cards and woodworking for preschoolers.				
<b>School-agers</b> Provide opportunities to get physical exercise, use variety of outdoor equipment. Encourage participation in group games, individual and team sports. Provide fine-motor activities and hobbies such as sewing, macramé, pottery, leatherwork, carpentry.				

## B. Curriculum *continued*

CRITERION	RATING			COMMENTS
	Not met	Partially met	Fully met	
<b>B-7h. Respect cultural diversity.</b>	1	2	3	
<i>For example:</i>				
<b>All ages</b>				
Cook and serve foods from various cultures.				
Celebrate holidays of various cultures.				
Read books, show pictures of various cultures.				
Invite parents and other visitors to share arts, crafts, music, dress, and stories of various cultures.				
Take trips to museums, cultural resources of community.				
<b>B-8. Staff provide materials and time for children to select their own activities during the day.</b>	1	2	3	
<input type="checkbox"/> Infants and toddlers have some materials for free choice.				
<input type="checkbox"/> Several alternative activities are available for preschooler's choice.				
<input type="checkbox"/> Staff respect the child's right not to participate in some activities.				
<input type="checkbox"/> Teachers pick up on activities that children start, or interests that children show.				
<input type="checkbox"/> School-agers help prepare materials, plan and choose their own activities most of the time.				
<b>B-9. Staff conduct smooth and unregimented transitions between activities.</b>	1	2	3	
<input type="checkbox"/> Children are told to get ready for transition ahead of time.				
<input type="checkbox"/> Children are not always required to move as a group from one activity to another.				
<input type="checkbox"/> The new activity is prepared before the transition from the completed activity to avoid waiting.				
<input type="checkbox"/> School-age children help plan and participate in the change of activity, have time to adjust to change from school to center.				

## B. Curriculum continued

CRITERION	RATING			COMMENTS
	Not met 1	Partially met 2	Fully met 3	
<b>B-10. Staff are flexible enough to change planned or routine activities.</b>  <i>For example:</i>  Staff follow needs or interests of the children. Staff adjust to changes in weather or other unexpected situations in a relaxed way without upsetting children.	1	2	3	
<b>B-11. Routine tasks such as diapering, toileting, eating, dressing, and sleeping are handled in a relaxed and individual manner.</b>  <input type="checkbox"/> Routine tasks are used as opportunities for pleasant conversation and playful interaction to bring about children's learning. <input type="checkbox"/> Self-help skills are encouraged as children are ready. <input type="checkbox"/> Routines are tailored to children's needs and rhythms as much as possible.  <i>For example:</i>  Respecting infants' individual sleeping schedules, providing alternatives for preschoolers who are early risers, providing school-agers with a place to rest if they choose, respecting school-agers' increasing interest in personal grooming.	1	2	3	

## G. Physical Environment

<b>G-1a. There is enough usable space indoors so children are not crowded.</b>	1	2	3	

## G. Physical Environment *continued*

CRITERION	RATING			COMMENTS
	Not met	Partially met	Fully met	
<b>G-1b. There is enough usable space for outdoor play for each age group.</b>  <i>For example:</i>  Age groups use different areas or are scheduled at different times.	1	2	3	
<b>G-2. Space is arranged to accommodate children individually, in small groups, and in a large group.</b>  <input type="checkbox"/> There are clear pathways for children to move from one area to another without disturbing activities.  <input type="checkbox"/> Areas are organized for easy supervision by staff.	1	2	3	
<b>G-3. Space is arranged to facilitate a variety of activities for each age group.</b>  <input type="checkbox"/> Nonwalkers are provided open space for crawling and protected space for play.  <input type="checkbox"/> Toddlers and preschoolers have space arranged for a variety of individual and small group activities including block building, dramatic play, art, music, science, math, manipulatives, quiet book reading.  <input type="checkbox"/> Sand and water play and woodworking are available on regular occasions.  <input type="checkbox"/> School-agers are provided separate space for their program including both active and quiet activities.	1	2	3	

## G. Physical Environment *continued*

CRITERION	RATING			COMMENTS
	Not met 1	Partially met 2	Fully met 3	
<b>G-4. A variety of age-appropriate materials and equipment are available for children indoors and outdoors.</b> <input type="checkbox"/> A sufficient quantity of materials and equipment is provided to avoid problems with sharing or waiting. <input type="checkbox"/> Materials are durable and in good repair. <input type="checkbox"/> Materials are organized consistently on low, open shelves to encourage independent use by children. <input type="checkbox"/> Extra materials are accessible to staff to add variety to usual activities.	1	2	3	
<b>G-5. Individual space is provided for each child's belongings.</b> <input type="checkbox"/> There is a place to hang clothing. <input type="checkbox"/> There are places for storing extra clothing and other belongings such as art work to be taken home.	1	2	3	
<b>G-6. Private areas where children can play or work alone or with a friend are available indoors and outdoors.</b> <i>For example:</i> Book corners, lofts, tunnels, or playhouses that are easy for adults to supervise.	1	2	3	
<b>G-7. The environment includes soft elements.</b> <i>For example:</i> Rugs, cushions, rocking chairs, soft furniture, soft toys, and adults who cuddle children in their laps.	1	2	3	



## H. Health and Safety

	1	2	3
<b>H-7. Children are under adult supervision at all times.</b>			
<i>For example:</i>			
Infants and toddlers are never left unattended.			
Preschoolers are supervised by sight and sound.			
School-agers may not be in sight, but staff know where children are and what they are doing.			
<b>H-12. Children are dressed appropriately for active play indoors and outdoors.</b>			
<input type="checkbox"/> Extra clothing is kept on hand.			
<input type="checkbox"/> Protective clothing such as smocks and mittens is kept on hand.			

## H. Health and Safety *continued*

CRITERION	RATING			COMMENTS
	Not met 1	Partially met 2	Fully met 3	
<b>H-13a. As children use the facility, staff and children keep areas reasonably clean.</b> <input type="checkbox"/> Tables are washed and floors are swept after meals. <input type="checkbox"/> Toys are picked up after use.				
<b>H-13b. Toileting and diapering areas are sanitary.</b> <input type="checkbox"/> Soiled diapers are disposed of or held for laundry in closed containers out of reach of children. <input type="checkbox"/> Cover of changing table is disinfected or disposed after each use. <input type="checkbox"/> Toilet area is sanitized daily.				
<b>H-14a. Staff wash their hands with soap and water before feeding, preparing or serving food, and after diapering or assisting children with toileting or nose wiping.</b>				
<b>H-14b. A sink with running hot and cold water is very close to diapering and toileting areas.</b>				
<b>H-15a. The building, play yard, and all equipment are maintained in safe, clean condition and in good repair.</b> <input type="checkbox"/> No sharp edges, splinters, protruding or rusty nails, or missing parts.				

**• Health and Safety continued**

CRITERION	RATING			COMMENTS
	Not met	Partially met	Fully met	
b. Infants' and toddlers' toys are large enough to prevent swallowing or choking.	1	2	3	
b. Sides of infants' cribs are in a locked position when cribs are occupied.	1	2	3	
7a. Toilets, drinking water, and handwashing facilities are easily accessible to children.	1	2	3	
For example: Facilities are either child sized or made accessible by nonslip stools.				
7b. Soap and disposable towels are provided.	1	2	3	
c. Children wash hands after toileting and before meals.	1	2	3	
a. Areas used by children are well-lighted and ventilated and kept at a comfortable temperature.	1	2	3	

[illegible]

## • Nutrition and Food Service

CRITERION	RATING			COMMENTS
	Not met 1	Partially met 2	Fully met 3	
3. Mealtime is a pleasant social and learning experience for children.				
<input type="checkbox"/> Infants are held and talked to while bottle fed.				
<input type="checkbox"/> At least one adult sits with children during meals to provide a good role model and encourage conversation.				
<input type="checkbox"/> Toddlers and preschoolers are encouraged to serve and feed themselves.				
<input type="checkbox"/> Chairs, tables, and eating utensils are suitable for the size and developmental levels of the children.				

## Appendix D

Winnipeg Child Care Study

Laura Atkinson

Winnipeg, Manitoba

^F1^

^F2^

^F3^

June 10, 1988

Dear ^F4^,

Your centre has been selected to participate in some important child care research in Manitoba. Although all information will be kept in strictest confidence and your centre will never be identified by name, you will make an important contribution to the field of child care study, by your participation.

I have undertaken this study for my Master's degree in Early Childhood Development at the University of Manitoba. Before going back to school, I worked for a community college training day care workers, worked in day care and served on parent boards and day care advisory committees. I am familiar with the difficulties of providing child care and with the real dedication that child care workers bring to this challenging and important work.

As you know, not enough research has been done on day care. As the demand for child care increases, research is necessary to support the provision of quality care. My research will address one area where information has been incomplete: caregiver-child interaction. I propose to observe and interview a number of Child Care Workers. Each observation will take about thirty minutes to complete. All of the observations taken together will help to define the nature of the interaction between caregivers and the children in their care. The interview, which will take less than thirty minutes, may be done by phone or in person, at a time convenient to the caregiver. Caregivers will be asked about their work experience, education, and other non-identifying information. All of the interview information taken together, will provide a profile of the caregivers who work with young children in Manitoba.

Please ask the full-time Child Care Workers in your centre to read and sign the enclosed letter of consent. I will be following this letter up with a phone call during the week of June 20th and will be able to answer any questions or concerns that you might have. Thank you for your help. I believe that you are aiding the cause of quality care that we all believe in.

Laura Atkinson

## Appendix E



Laura Atkinson

Winnipeg, Man.

Dear Child Care Worker:

Although day care for young children is an extremely valuable service to the family in today's society, very little research has been done on day care and its importance. With your help I would like to find out more about this valuable service and the dedicated workers who provide day care in our community. I would like to observe you at work in your centre for a brief observation period of about thirty minutes. Afterwards, at some time convenient to you, I would like to interview you to obtain some information about you, your education and your experience working with young children. This interview would take about 30 to 40 minutes to complete.

Your participation is completely voluntary and you may withdraw from the study at any time. Any information you give will be strictly confidential. Information will not be used, at any time, in a way that would identify any participant. In addition, all participants will be provided with a summary of the results of the study once it has been completed.

If you have any questions or concerns about this study or your participation in it, please call me, Laura Atkinson, at 783-2897 and I will be happy to supply any information you require.

SIGNATURE OF CONSENT

SIGNATURE OF RESEARCHER

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