DOCUMENT RESUME

ED 421 211 PS 026 624

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TITLE Which Counts More for Excellence in Childcare Staff: Years in Service, Education Level or ECE Coursework?
PUB DATE 1998-06-00
NOTE 39p.; Paper presented at the Annual Quality Infant/Toddler Caregiving Workshop (22nd, Syracuse, NY, June 15-19, 1998).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Caregiver Child Relationship; *Child Caregivers; Day Care; Day Care Centers; Early Childhood Education; Interaction; *Teacher Background; Teacher Characteristics; Teacher Student Relationship; *Teaching Experience; *Training
IDENTIFIERS *Caregiver Qualifications; Caregiver Training; *Day Care Quality

ABSTRACT

A sample of 81 caregivers in 24 urban centers was observed in interactions with preschool children ages 3 to 5. Observation centered on the domains of positive and negative socioemotional inputs, language facilitation, concept promotion, and caregiving and cleaning up (of children and of environment). The teachers provided responses to questions about their number of years of formal schooling, years in child care, years at the same center, own parenting status, and how many ECE/CD (early childhood education and child development) courses and workshops they had ever taken. Hierarchical stepwise regressions and ANOVAs showed the importance of ECE/CD training. When all positive teacher interactions tallied in the classroom were combined, ECE/CD training accounted for over 62 percent of the variance in teacher inputs. Results suggested that when interviewing candidates for child care positions, directors need to verify a candidate's prior ECE/CD training, along with providing supports for staff to obtain ongoing ECE/CD coursework to ensure high quality child care. (Contains 32 references.) (Author/EV)

WHICH COUNTS MORE FOR EXCELLENCE IN CHILDCARE STAFF - YEARS IN SERVICE, EDUCATION LEVEL OR ECE COURSEWORK?

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ABSTRACT

A sample of 81 caregivers in 24 urban centers was observed in interactions, with preschool children three-to-five years old, in domains of positive and negative soecioemotional inputs, language facilitation, concept promotion, and caregiving and cleaning up (of children and of environment). The teachers independently had provided responses to questions about their: number of years of formal schooling, years in childcare, years at the same center, own parenting status, and how many ECE/CD (early childhood education and child development) courses and workshops they had ever taken. Hierarchical stepwise regressions and ANOVAs showed the importance of ECE/CD training. When all positive teacher interactions tallied in the classroom were combined, ECE/CD training accounted for over 62 percent of the variance in teacher inputs. Thus, when interviewing candidates for childcare positions, directors need to verify a candidate's prior ECE/CD training and they need provide supports for staff to obtain ongoing ECE/CD coursework to ensure high quality childcare.

Key Words: daycare teacher characteristics; preschool interactions

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Introduction

Directors of childcare programs and parents in the communities they serve are passionately eager to know that their child is being cared for by the best possible caregiver. Yet, research surveys in the USA show that there is often cause for concern about the quality of care provided for the youngest children in society (Whitebook, Howes, & Phillips, 1990). In a USA study of over 400 childcare centers, most of the five million children received poor to mediocre care with 1 of 8 actually in a setting that jeopardized their basic health and safety needs (Helborn, 1994). Only 1 in 7 centers was rated as good on NAEYC accreditation criteria. Of even more concern was that the very youngest children were receiving the poorest care. Parents often lack information about how to choose quality care (Honig, 1979a; 1995). Nearly 50% of Swedish parents with a preschooler in daycare reported that they lacked information "into the daily life of the day care, the educational program, and what happens to the child. [Thus], most parents would not be able to judge the professional quality of the work very well" (Karrby & Grotta, 1995, p.11).

Parental and family variables have been found to be more predictive than childcare variables for social-emotional and cognitive outcomes for young children (NICHD Early Child Care Research Network, 1997). But researches indicate clearly the degree to which excellence in caregiver quality is indeed associated with positive

outcomes in young children's behaviors, language ability and learning (Goelman & Pence, 1987; Howes, Phillips, & Whitebook, 1992; McCartney, Scarr, Phillips, Grajek, & Schwartz, 1982).

Certain caregiver process variables affect child outcomes. Children whose caregivers have been characterized as more warmly responsive and nurturing are reported to be more socially competent and self-regulated, with more advanced sociability and better emotional adjustment (Howes, 1990; McCartney et al., 1982). When caregivers create a negative emotional climate in the classroom, children are more fearful, more stressed, and less motivated to learn (Anderson, 1989; Burts, Hart, Charlesworth, Fleege, Mosely, & Thomasson, 1992; Howes, 1983; Howes & Hamilton, 1992). When caregivers are responsive to children's interests, goals, questions, and requests, the children are more independent, cooperative, sociable and generally happy (Clarke-Stewart, 1987; 1991). Many of these positive interaction characteristics are described in the NAEYC handbook on developmentally appropriate practices for providers (Bredekamp & Copple, 1996). Caregiver beliefs about self-efficacy have been noted as mediators that affect teacher choice of activities and how much effort teachers will make to facilitate a child's learning (Bandura & Jourden, 1991). Teachers who have an internal locus of control are more likely to believe that they can indeed find more effective teaching techniques to impact on student outcomes despite external forces such as poverty or stressful family circumstances in the children's lives (DiBella-McCarthy, McDaniel, & Miller, 1995).

Quality of childcare provision has also been linked to structural characteristics,

such as high caregiver-child ratios, small group size, low staff turnover rate, and higher caregiver pay (Howes & Hamilton, 1992; Peisner-Feinberg & Burchinal, 1997). Teacher turnover rate in centers ranges from 24 to 41% annually (Whitebook, Phillips, & Howes, 1993). Although these structural variables are more likely to be at the mercy of the marketplace (higher salaries, for example) they in turn influence process variables (interpersonal interactions with children) (Vandell & Henderson, 1988; Whitebook, et al., 1990).

What structural characteristics among caregivers are easily measured and yet influence the quality of childcare provided? Some researches report that caregivers with higher rather than lower amounts of child development training are more positive and less restrictive with young children and more likely to employ developmentally appropriate practices (Arnett, 1989; Berk, 1985; Clarke-Stewart, 1991; Whitebook, et al., 1990). Developmentally appropriate supervised practicum experience is more likely to affect teacher knowledge and use of developmentally appropriate practices (Snider & Fu, 1990). Some studies report that the higher the formal education level of teachers, the higher the quality of care they provide (Ruopp & Travers, 1979). Findings for teacher years of experience with children have been contradictory. Sometimes teachers who have long experience but who do not take ongoing child development or ECE workshops report less belief in developmentally appropriate practices (Brouseau, Book, & Byers, 1988). However, McMullen (in press) reports more developmentally appropriate beliefs in veteran teachers with 18.2 years experience, compared with adults teaching less than two years.

If a Director and an advisory Board of parents and community persons are charged with hiring new childcare staff, the question as to which experiences and characteristics of the candidates being interviewed are most likely to predict socially facilitative classroom interactions with young children becomes important in determining the emphases of the initial hiring interview (Honig, 1979b). Ease of obtaining such information is an important consideration in hiring staff.

Research Questions

In the present study, major structural caregiver variables were explored in relationship to preschool teachers' observed classroom interactions in areas of social, emotional, language, physical, and concept development. How different or similar were teacher interaction patterns in the various domains of behaviors observed as a function of their high or low ratings for the major structural variables of this study?

METHODS

Subjects

Among the 81 caregivers in this sample, 75 were female teachers and 6 were male teachers of three to five-year-old preschool children. The majority (64%) were Caucasian, 29% were African American, 3% were Asian, 1% Russian, and 3% Hispanic. The teachers ranged in age from 20 to 59 years of age. Each of the centers sampled in a moderate sized urban area in the northeastern United States provides full day care from 7 A.M. to 5 P.M. and meets state licensing requirements with respect to group size, staff/child ratio, and space and facilities. A large number of centers (N = 24) was sampled in order to increase the external validity of findings. These centers

were integrated with respect to child ethnicity and serve working and middle class families.

Classroom observations of teachers took place prior to the collection of demographic information to ensure that the observer-coders were blind to teacher responses. Teachers filled out a confidential questionnaire to indicate 1) their years of formal education, 2) the number of early childhood workshops and courses they had completed, 3) how many years they had worked as caregivers, 4) how many years they had worked at the same center, and 5) whether they raised children at home. Kagan, Keasley & Zelazo (1980) have characterized the best choice of caregiver as one who has reared children of her own. However, one can also suppose that rearing one's own young may sometimes add to stress in a caregiver responsible all day for young children.

Caregivers varied with respect to their levels of formal education, training in early childhood, and years of experience in childcare. Twenty-seven teachers had a high school degree, 22 had an AA degree, 26 had a BA degree, and 5 teachers had graduate degrees. The number of ECE/CD workshops and courses that the teachers had taken ranged from one to 17 ($\underline{M}$ = 6; Mode = 10).

Range of childcare experience also varied widely among the caregivers, from zero to 18 years ($\underline{M}$ = 5 years; Mode = 2 years). Teacher stability (number of years at the same center) ranged from zero to 11 years ($\underline{M}$ = 3 years; Mode = 2 years).

Measures

The dependent variables were tallies of teacher interactions observed over a

two day period. The instrument used was the ABC (Adult Behaviors in Caregiving) scale for caregivers of preschoolers (Honig & Lally, 1973; 1975). During a half-hour observation, a maximum of twelve 2-minute tallies per individual behavioral item per caregiver is available, since the coder must rest after each ten-minutes of recording every adult behavior occurring during each two-minute segment. This made possible an analysis of particular teacher behaviors and of 9 clusters of adult behaviors. Six of these ABC clusters were considered positive caregiver behaviors with children: Language growth fostering; Facilitation of child social and physical skills; Promotion of concept development; Positive socioemotional interactions with child; Physical caregiving of child; Qualitative category:individualized teacher responses. Three clusters were considered non-positive behaviors : Negative emotional behaviors; Physical caregiving of the environment; Doing nothing for child. During the half-hour recording session, a blue pencil and red pencil were used respectively to tally adult interactions/responses with boys vs. girls. Interobserver reliabilities (excluding the qualitative category which was dropped from the analyses due to low interobserver reliability) between two advanced Child Development graduate students) for the ABC categories ranged from $r = .59$ to $r = .86$ for the various teacher behavioral tallies. The variety of ABC clusters of items permits an analysis of the potentially differential effects of teacher demographic variables on different domains of their behaviors with young children.

For all teachers, a stepwise hierarchical multiple regression analysis was used to determine the proportion of variance that each of the independent variables

contributed to each of the dependent clusters or domains of teacher behaviors. Nine separate ANOVAS were also carried out to compare mean "composite" scores (total number of tallies) on each of the separate ABC subscales. Duncan post-hoc procedures were then used to determine significant paired group comparisons.

The cutoff criteria for formal education were: L = High School or Associates degree; H = college or graduate degree. The cutoff criteria for ECE/CD training courses were: L = 1 to 4 ; H = 5 or more. For experience, L = 1-3 years in daycare; H = 4 or more years. With respect to the three major demographic independent variables studied, teachers could then be assorted into eight major groups. Thus, a teacher could be low (L) or high (H) in all three categories and low or high in any of the three. However, the caregivers were found to be distributed into seven categories, since no teachers fell into the group high in formal education, low in number of ECE/CD coursework and high in years of experience (See Table 1).

Insert Table 1 about here

T-tests were carried out for the other two demographic variables The first set of t-tests was done to determine whether teachers who had or had not raised children differed from each other with respect to the mean number of tallies for each of the major ABC subscale domains. A second set of t-tests was conducted to determine whether subjects with high stability (4 or more years at the same center) vs. low stability (defined as 3 or fewer years at the same center) differed with respect to the

mean number of tallies for each ABC cluster. Pearson r correlation coefficients were also run to assess the relationship between number of years of childcare work and: 1) number of positive teacher tallies ; 2) number of ECE/CD training experiences.

RESULTS

Since no caregiver differences in frequencies of behaviors were found as a function of interactions with boys vs. girls, tallies of teacher inputs are reported for all children. The importance of H vs. L ratings for teachers (respectively in formal education; ECE/CD training; and years in childcare) as they impact on positive and negative teacher behavior clusters can be seen in Figures 1 and 2. When behavioral tallies are summed for teacher behaviors in all six positive ABC domains, there is a marked difference between the scores of HHH teachers and LLL teachers. The HHH teachers provided significantly ($p < .05$) more physical personal caregiving for the children, compared with the other groups of teachers. The HHH teachers were also significantly less variable and more consistent in their positive caregiving. The range between their minimum and maximum number of positive tallies was 31, while this range for the LLL teachers was 56 (t (19) = 3.01, $p < .02$). The HHH teachers also had a significantly smaller number (13) of negative tallies for the three domains cited above compared with 24 negative tallies for LLL teachers (t (19) = 2.26, $p < .04$).

Insert Figures 1 and 2 about here

Language Facilitation

One way ANOVAs carried out on the scores of the seven different groups of teachers high and low on the three major demographic variables showed that these variables were significantly related to frequency of ABC tallies for the cluster "Facilitation of language development" ($p < .00$). ECE/CD training most markedly influenced teacher facilitation of child language development. Post-hoc Duncan procedures indicated that subjects in the HHL groups and HHH groups who both had high amounts of training did not differ in their mean number of positively facilitating tallies (44.8 and 44.9, respectively). However, LLL, LLH and HLL teachers with the least number of ECE/CD courses had the lowest mean number of tallies for facilitating language development: 23.3, 26, and 19.2, respectively.

Insert Table 2 about here

Teachers with high formal education, low training, and low experience showed significant differences ($p < .05$) in Duncan paired comparisons with those who also had high formal education and low experience but were high in number of training experiences ($M = 19.2$ vs. $M = 44.8$).

What about the influence of number of years of childcare work experience on language facilitation? LHH and LHL teachers differed only in the number of years of experience they had. Both of these groups had low formal education and high ECE/CD

training. Their mean number of tallies for facilitating language did not differ (M = 36.3 vs. M = 36.0). Thus, years of childcare experience did not contribute to group differences to the degree that training did. Duncan post-hoc comparisons of LLH and LHH teachers, who differed only with respect to amount of training, showed they did significantly differ ($p < .01$) in terms of frequency of language facilitation (respectively M = 26.0 vs. M = 36.3). Early childhood training was the most influential variable influencing teacher facilitation of preschoolers' language in comparison with the variables of formal education and years of experience.

Facilitation of Social and Physical Skills

One way ANOVA indicated that the seven teacher groups also differed in their degree of facilitation of child skills ($p < .00$). The mean number of tallies (10.8) for HLL subjects with high formal education was lower than the mean number of tallies (18.8) for LLL teachers low on all three measures (Table 3). HHL and HHH teachers (high in both ECE/CD training as well as formal education, but differing in years of childcare experience) were similar in mean number of skill building behaviors (M = 26.9 vs. M = 29.7).

Insert Table 3 about here

Early childhood training, however, did make a difference in teacher social/physical skill building. LLL, LLH, and HLL teachers all had the least amounts of ECE/CD training, and also the lowest mean number of supportive behaviors

(respectively: 18.8, 15.4, and 10.4). In contrast, teachers in groups LHL, LHH, HHL, and HHH all had the highest amount of ECE/CD training and they provided the highest mean numbers of facilitative behaviors for skill building (respectively: 21.8, 26.9, 27.7, and 29.2). Comparison of the mean scores for these two sets of teachers was significant ($t[79] = 1.97$, $p < .05$). Note that teachers in groups LLH and HLL, although differing in degree of formal education and years of childcare experience, were both low in ECE/CD training, and their mean scores for facilitation of child social and physical skills were quite low (respectively: 15.4 and 10.4).

Facilitation of Concept Development

One Way ANOVA demonstrated significant differences among the seven teacher groups ($p < .00$). Table 4 shows that post-hoc Duncan comparisons yielded no effect of formal education when teachers differed only in that variable. When teachers had little ECE/CD training, then despite their differences in years of formal schooling, their promotion of concept development among preschoolers was similar and low (for LLL and HLL respectively $M = 9.0$ and $M = 8.0$).

Teachers high in ECE/CD training (HHL and HHH) who differed only in the number of years experience teaching in childcare also did not differ significantly on mean inputs (25.0 and 23.5 respectively) for this subscale.

Insert Table 4 about here

Level of ECE/CD training did make a significant difference in mean caregiver

promotion of concept development. That is, regardless of level of formal education or of years of childcare experience, those teachers with the highest levels of training (LHL, LHH, HHL, and HHH) had the highest mean scores for support of concept learning among the preschoolers (respectively: 17.6, 20.7, 25.,0, and 23.5).

Post-hoc comparisons revealed that for LLH and LHH teachers, who differed only in the amount of training received, the mean number of inputs facilitating concept development reflected this influence (M = 9.8 vs. M = 20.7 respectively, $p < .05$). Thus, regardless of formal education or experience, the differences between groups of teachers either low or high in training were significant ($t[79] = 2.01$, $p < .05$). Teachers with the least ECE/CD training (LLL, LLH, and HLL) showed the lowest mean scores for support of concept development (8.8,9.0 and 9.8, respectively).

Positive Socioemotional Interactions

The ANOVA for this subscale also found significant group differences ($p < .00$) among the teachers. Duncan post-hoc analyses showed an influence of formal education. Teachers with more years of formal schooling were more frequently emotionally positive with the preschoolers. Mean group scores for teachers who differed only in formal education (20.4 for LHL vs. 23.9 for HHL), differed significantly ($p < .05$). HHL and HHH teachers, with high levels of training and of formal education, but different numbers of years of childcare experience, showed similarly high mean behavioral tallies (23.9 vs. 26.0). Teachers with low levels of both formal education and training but differing experience in childcare (LLL vs. LLH) had low means (14.2 and 12.54) that did not differ (Table 5). More years of experience in childcare was not

associated with more loving interactions such as hugs or smiles.

Insert Table 5 about here

Note, in contrast, that ECE/CD training made a significant difference in teachers' positive emotional behaviors with preschoolers. LLH and LHH caregivers differed only in terms of training levels, yet their mean behavioral tallies were significantly different (12.5 vs. 18.35, $p < .05$) by Duncan post-hoc analysis. The lowest mean number of behaviors tallied for positive adult emotional inputs (14.2, 12.5, and 12.0) occurred among the teachers with the least amount of training (respectively, groups LLL, LLH and HLL).

The highest mean number of positive emotional inputs (20.4, 18.3, 23.9, and 26.1) was found for those teachers (LHL, LHH, HHL and HHH) with high levels of ECE/CD training, regardless of their other demographic characteristics. When one compares groups of teachers who differ only on low vs. high training, these adult differences in positive emotional behaviors were significant (t (79) = 2.0, $p < .05$).

Combined Positive Teacher Behaviors

A final one way ANOVA was conducted combining all positive scales so far discussed to ascertain differences among the teachers (F [6,74] = 43.8, $p < .000$). In Table 6 it is clear that HHH teachers had the highest mean score while HLL teachers had the lowest mean score (M = 145.8 vs. M = 65.0; t [79] = 3.2, $p < .00$). Consistently, HLL teachers had the lowest mean number of positive

tallies. Thus, a high degree of formal education did not ensure positive teacher supports for young children if training and experience were low.

Insert Table 6 about here

When all positive subscale clusters of emotional and cognitive caregiver behaviors were combined, then the number of positive teacher behaviors with children and the number of years of work in childcare were significantly related (r = .56). In addition, there was a significant positive correlation between the number of childcare workshops/courses teachers had taken and the number of positive behaviors tallies with preschoolers (r = .79).Again, low levels of ECE/CD training, regardless of formal education level or years of childcare experience, were associated with the lowest mean teacher scores (65, 80.1, and 81.7 for groups HLL, LLH and LLL respectively). Scores of the four groups of teachers with high levels of training ranged from 109.7 to 145.0 - significantly higher than the low-training teachers' mean scores (Table 7).

Insert Table 7 about here

Negative Socioemotional Inputs with Preschoolers

A one way ANOVA yielded significant differences among teachers ($p<.01$). One group, HLL teachers with high formal education, but low training and experience received more tallies than all others for negative inputs (M = 9.0) compared with

teachers from all the other groups (M = 3.6, p<.01).

Cleaning the Environment

Since one way ANOVA indicated significant differences among the teacher groups, Duncan post-hoc tests were carried out. The group LLH differed from all the other teachers (M = 8.45 vs. M =2.3, t (79) = 2.71, p <.01). That is, teachers with more childcare experience, but low in training and in formal education did more of the cleaning and organizing toys and materials (rather than direct interpersonal interactions with preschoolers) compared with the other teachers.

Do Nothing/Talk with Other Teachers

There were no significant differences in formal education, training, or experience among the seven groups of caregivers. Rarely were preschool teachers tallied as "doing nothing"!

Teacher Personal Family Variables

Teacher tallies for the ABC subscales were examined by t -test to see if there were differences as a function of whether a teacher was raising her own children. There was a tendency for teachers with their own children to have slightly higher mean scores for negative inputs (M = 4.57 vs. M = 3.88, t (79) = 2,60, p <.03) and also for cleaning the environment more (M = 3.65 vs. M = 3.01, t [79] = 2.51, p<.03) than teachers who did not rear children of their own.

There was a slight trend for less provision of personal physical child care by by teachers with their own children as compared with those without children (M = 2.18 vs. M =2.89, t [79] = 1.83, p <.06).

Stability of Teacher Job Situation

Increased stress and burnout has sometimes been predicted for providers who have had longer years of experience. In this sample of preschool providers, t-tests only showed significant teacher differences in two areas. Teachers who had been at the same center for four or more years were more likely to have higher numbers of negative socioemotional tallies than those teachers at centers for less time (M = 4.45 vs. M = 3.2, $t[79] = 2.74$, $p < .012$). Teachers with longer years of service in the same center also showed a higher number of behaviors in the cluster "Caregiving the environment" in comparison with teachers less than three years at the same center (M = 4.83 vs. M = 2.64, t [79] =3.67, $p < .000$).

Stepwise Hierarchical Regressions

Stepwise hierarchical regressions were carried out to determine which of the independent variables (formal education, ECE/CD training, years of experience, and stability of job placement) accounted for more of the variance in the ABC subscales.

The regression findings (Table 8) further confirmed the ANOVA results. Level of ECE/CD training accounted for 62.6% of the variance in teacher "Promotion of language development" ($F[1,79] = 135.15$, $p<.00$). Increased formal education accounted for an increase of 15.1% of the variance (F [2,78] = 100.9, $p<.01$). Stability of job at the same center accounted for an increase of 6.7% of the variance ($F[3,77] = 81.03, p<.02$). More teacher years of experience in childcare accounted for 3.4% of the variance ($F[4,76] = 68.4$, $p<.04$).

Insert Table 8 about here

ECE/CD training accounted for 29.4% of the variance in teacher subscale scores for "Facilitating children's social and physical development". A higher level of formal education accounted for 5.1% of the variance in this domain; however, stability of job placement or caregiver years of childcare experience did not contribute to the variance in scores.

Degree of ECE/CD training was the only independent variable that significantly contributed to the variance (41.0%) in the subscale "Promotion of concept development" ($F[1,79] = 56.6$, $p < .01$).

Teacher training accounted for 43.7% of the variance in "Positive emotional interaction " scores ($F[2,78] = 63.15$, $p < .01$). Higher formal education also made a difference, with an increase of 14.1% in the variance ($F[2,78] = 51.03$. $< .02$).

The only variable of significance for the category "Negative socioemotional inputs" was formal education, which accounted for 11.1% ($p < .01$) of the variance. The more formal education a caregiver had, the more tallies for negative emotional inputs.

Only formal education proved significant ($p < .04$), accounting for 6.9 % of the variance in scores for physical caregiving of children. The higher a teacher's level of formal education, the more personal physical caregiving was provided for preschoolers.

"Years of experience" was the only independent caregiver variable that

"Years of experience" was the only independent caregiver variable that significantly contributed (28.3%) to the variance for the subscale "Caregiving/cleaning the environment". The more years a teacher had worked in childcare, the more likely she was to clean and wash toys and materials.

When all positive ABC subscale scores were combined, the stepwise procedures indicated that ECE/CD training accounted for 62.1% of the variance in teacher scores ($F[1,79] = 132.5, p < .00$). Formal education also significantly increased the variance by 10.1% ($p < .01$). Neither stability in employment nor years of experience in daycare added significantly to the variance in caregiver scores.

DISCUSSION AND CONCLUSIONS

The major finding of this study, corroborated by ANOVAS and stepwise regressions, is that, in comparison with the other independent structural variables studied, training in early childhood education and child development was revealed as crucially implicated in ensuring more positive interactions of teachers with preschoolers. This was true in all the ABC domains comprising positive inputs. Thus, ECE/CD training was significant whether teachers were providing positive emotional inputs such as smiles and pats or providing language facilitation, specified in ABC scales by such behaviors as conversing, reading, singing, role playing, questioning, modeling, and expanding language. Teachers with more training were far more likely to enrich children's childcare experience with positive language interactions.

This effect of ECE/CD training was true likewise for teacher promotion of cognitive competence by teaching ABC concept items such polar opposites, space and

ECE/CD training was also prominent in accounting for increased teacher facilitation of children's skills, such as teaching them social games, promoting self help and social responsibility, helping children learn to delay gratification, promoting persistence and attention span.

Teachers who had worked four or more years in childcare were not more likely to provide positive emotional inputs, such as hugs or smiles compared with caregivers with fewer than 3 years of experience. Nor was "Stability of childcare position" in any way associated with increased teacher enrichments for children's learning or socioemotional development. Caregivers with more years of experience did seem to take on more room and toy cleaning responsibilities.

Higher formal education levels were significantly implicated in more teacher facilitation of language. Yet, formal education did not seem to be a protective factor to decrease negative inputs to the children. A higher teacher level of formal education did account for more positive emotional but also more negative emotional inputs with preschoolers. Overall, this study confirms that the most important aspect for ensuring a high quality childcare staff is early childhood training. Center directors, with parent and community help, need to seek resources so that they can afford to give providers time off for teacher training and to pay for child development workshop fees.

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FIGURE 1

MIN/MAX TALLIES FOR POSITIVE ABC-III

SUBSCALES PER TEACHER GROUP

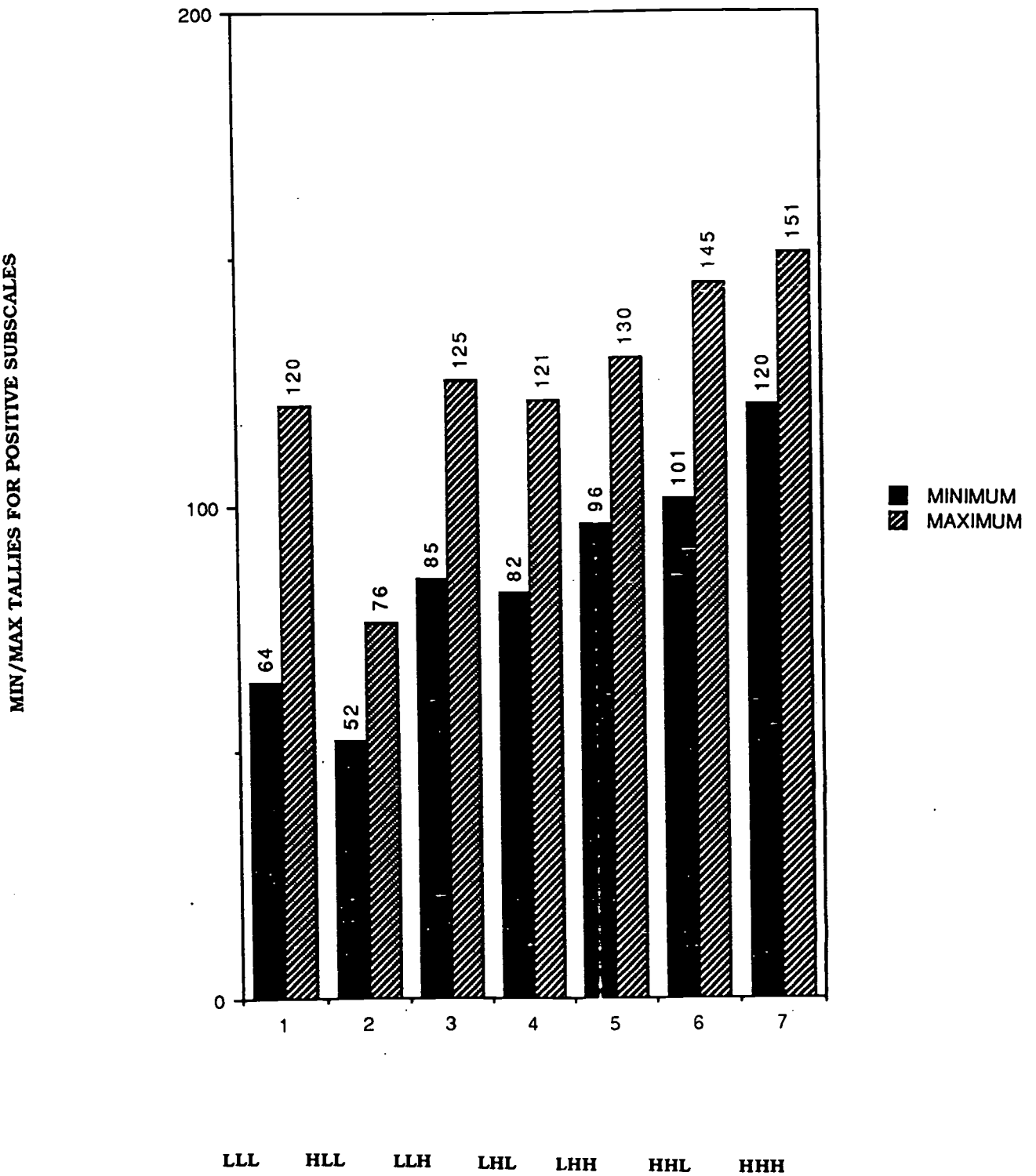

FIGURE 2

MIN/MAX TALLIES FOR NEGATIVE ABC-III SUBSCALES PER TEACHER GROUP

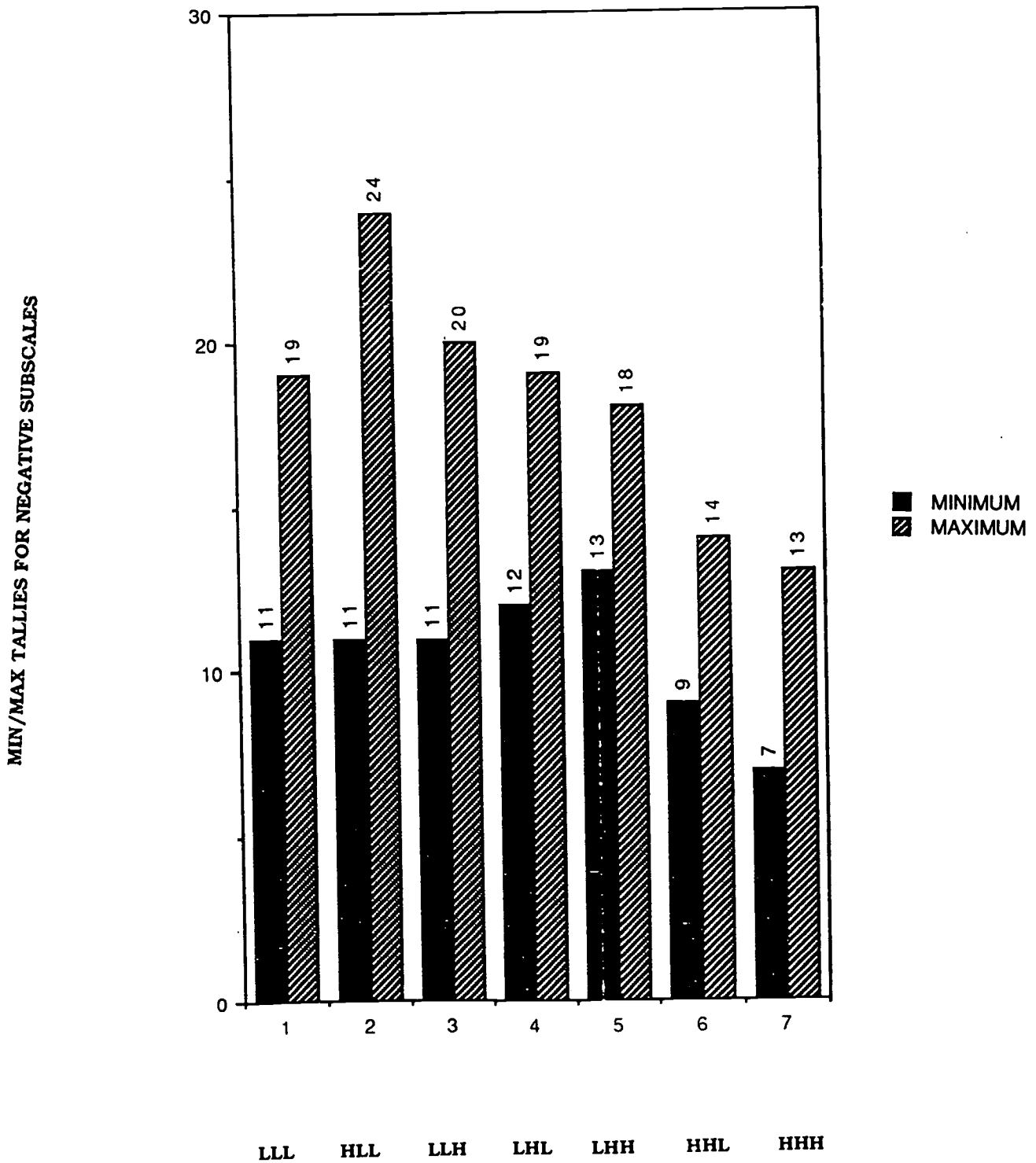

Table 1

Teacher Group Frequencies for Demographic and Structural Variables

Group	EDUCATION	TRAINING	EXPERIENCE	n
LLL	Low	Low	Low	9
LHL	Low	High	Low	12
LLH	Low	Low	High	11
HLL	High	Low	Low	10
LHH	Low	High	High	14
HHL	High	High	High	13
HHH	High	High	High	12

Note. Group designation is by high or low levels of formal education, training and experience respectively.

Table 2

Teacher Group Means For Interactions with Preschoolers on the ABC-III Subscale Facilitation of Language Development

Mean	Group	4	1	3	5	2	6	7
19.20	Group 4 (HLL)							
23.33	Group 1 (LLL)							
26.00	Group 3 (LLH)	*						
36.00	Group 5 (LHH)	*	*	*				
36.33	Group 2 (LHL)	*	*	*				
44.84	Group 6 (HHL)	*	*	*	*	*		
44.91	Group 7 (HHH)	*	*	*	*	*		

Note. Group designation is by high or low levels of formal education, training, and experience respectively.

* $p < .05$

Table 3

Teacher Group Means For Interactions with Preschoolers on the ABC-III Subscale Facilitation of Social and Physical Skills

Mean	Group	4	3	1	2	6	5	7
10.40	Group 4 (HLL)							
15.45	Group 3 (LLH)							
18.90	Group 1 (LLL)	*						
21.75	Group 2 (LHL)	*	*					
26.92	Group 6 (HHL)	*	*	*	*			
27.78	Group 5 (LHH)	*	*	*	*			
29.25	Group 7 (HHH)	*	*	*	*			

Note. Group designation is by high or low levels of formal education, training, and experience respectively.

* $p<.05$

Table 4

Teacher Group Means for Interactions with Preschoolers on the ABC-III Subscale Facilitation of Concept Development

Mean	Group	4 1 3 2 5 7 6
8.80	Group 4 (HLL)	
9.00	Group 1 (LLL)	
9.81	Group 3 (LLH)	
17.66	Group 2 (LHL)	* * *
20.78	Group 5 (LHH)	* * *
23.58	Group 7 (HHH)	* * *
25.07	Group 6 (HHL)	* * * *

Note. Group designation is by high or low levels of formal education, training, and experience respectively.

* $p<.05$

Teacher Group Means for Interactions with Preschoolers on the ABC-III Subscale Facilitation of Positive Socioemotional Development

Mean	Group	4 3 1 5 2 6 7
12.00	Group 4 (HLL)	
12.54	Group 3 (LLH)	
14.22	Group 1 (LLL)	
18.35	Group 5 (LHH)	* * *
20.41	Group 2 (LHL)	* * *
23.92	Group 6 (HHL)	* * * * *
26.08	Group 7 (HHH)	* * * * *

Note. Group designation is by high or low levels of formal education, training, and experience respectively.

* $p<.05$

Table 6

Teacher Group Means for Interactions with Preschoolers on the ABC-III Subscale Facilitation of Positive Socioemotional Development

Mean	Group	4 3 1 5 2 6 7
12.00	Group 4 (HLL)	
12.54	Group 3 (LLH)	
14.22	Group 1 (LLL)	
18.35	Group 5 (LHH)	* * *
20.41	Group 2 (LHL)	* * *
23.92	Group 6 (HHL)	* * * * *
26.08	Group 7 (HHH)	* * * * *

Note. Group designation is by high or low levels of formal education, training, and experience respectively.

* $p<.05$

Table 7

Teacher Group Means for Intearctions with Preschoolers on Total Positive Subscales for ABC- III scale

Mean	Group	4	3	1	2	5	6	7
65.00	Group 4 (HLL)							
80.09	Group 3 (LLH)	*						
81.66	Group 1 (LLL)	*						
109.66	Group 2 (LHL)	*	*	*				
120.50	Group 5 (LHH)	*	*	*				
141.51	Group 6 (HHL)	*	*	*	*	*		
145.83	Group 7 (HHH)	*	*	*	*	*		

Note. Group designation is by high or low levels of formal education, training, and experience respectively.

* $p<.05$

Table 8

Stepwise Hierarchical Regression

Dependent variables

	Caregiver Promotion of:							
	Language Development				Concept Development			
Indepen. Variables	Increase in R	total R	F	p	Increase in R	total R	F	p
Training	62.6%	62.6	135.1	.00	41.0%	41.0	56.6	.01
Education	15.1%	77.7	100.9	.01			NS	
Stability	6.7%	84.4	81.03	.03			NS	
Experience	3.4%	87.8	68.4	.04			NS	

Table 8 cont'd.

Stepwise Hierarchical Regression

Dependent variables

	Caregiver Promotion of:							
	Positive Socioemotional Interactions				Social and Physical Skills			
Indepen Variables	Increase in R	Total R	F	p	Increase in R	Total R	F	p
Training	43.7%	43.7	63.1	.00	29.4	29.4	34.3	.02
Education	14.1%	57.8	51.03	.01	5.1	34.5	27.4	.03
Stability			NS				NS	
Experience			NS				NS	

Table 8 cont'd.

Stepwise Hierarchical Regression

Dependent variables

	Negative Socioemotional Inputs				Caregiving: Child			
Indepen Variables	Increase in R	Total R	F	p	Increase in R	Total R	F	p
Training			NS				NS	
Education	11.1%	11.1	11.03	.01	6.9%	6.9	6.08	.04
Stability			NS				NS	
Experience			NS				NS	

Table 8 cont'd.

Stepwise Hierarchical Regression

Dependent variables

	Caregiving: Environment				Total Positive Subscales			
Indepen Variables	Increase in R	Total R	F	p	Increase in R	Total R	F	p
Training		NS			62.1%	62.1%	132.5	.00
Education		NS			10.1%	72.2	87.7	.01
Stability		NS				NS		
Experience	28.3%	28.3	37.7	.00		NS		

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