

Skills and Challenges in Child Care:

Perceptions of Flow Among Teachers

by

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Thesis submitted to the Faculty of the

Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the degree of

Master of Science

in

Family and Child Development

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June, 1986

Blacksburg, Virginia

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(ABSTRACT)

Perceptions of the experience of flow, a concept introduced by Csikszentmihalyi (1975), was examined among child care employees. Teachers (N=192) of 4-year-old children ranked their perceived skills, perceived challenges, happiness, and relaxation on ten activities that typically occur during a day at a child care center. Discrepancy scores were computed by subtracting the challenge rating from the skill rating for each activity, while flow scores were computed as the absolute value of the discrepancy scores. Happiness and relaxation scores were summed to compute a sense of well-being score for each activity. Paired t-tests indicated that respondents, as a group, perceived their skills as exceeding the challenges on all ten of the activities ($p < .0001$). A series of 2-way ANOVAS with four levels of child development education and three levels of experience revealed that education was significantly related to an increase in (a) perceived skills and perceived challenges with teaching activities $F(3,185)=3.38, p < .05$ and $F(3,185)=3.09, p < .05$, (b) perceived challenges in relationship activities $F(3,188)=2.80, p < .05$, and (c) perceived skills on routine activities $F(3,187)=3.11, p < .05$. Years of work experience with children was significantly related to a positive

sense of well-being during teaching activities $F(2,185)=6.52, p<.05$. Paired t-tests indicated that (a) perceived challenges in teaching activities were significantly greater than for relationship activities ($p<.05$) and routine activities ($p<.001$); (b) challenges in relationship activities were significantly higher than for routine activities ($p<.0001$); (c) perceived skills in relationship activities were significantly greater than for routine activities ($p<.001$); and (d) discrepancy scores between skills and challenges in the relationship and teaching activities were significantly less (higher flow) than for routine activities. Kendall's Tau coefficients showed that perceived skills and sense of well-being for each activity correlated with job satisfaction ($p<.01$). Kendall's Tau coefficients between perceived skills and sense of well-being were moderate to moderately low ($p<.001$). One-way ANOVAS found subjects who rated their challenges higher than skills on relationships had a lower sense of well-being than subjects who rated their skills and challenges as equal or their skills greater than the challenges ($p<.05$). Multiple regression showed sense of well-being as the best predictor of job satisfaction ($r^2=.25$). The best predictor of well-being was skills in relationships ($r^2=.13$).

ACKNOWLEDGEMENTS

Special thanks and appreciation go to the following people--

- To Cosby Rogers, my committee chair -- Thank you for your support, enthusiasm, patience, and expertise. Your confidence in my abilities kept me going during the study. Most importantly, thanks for being in "flow" throughout the project.
- To Dr. Janet Sawyers, who came up with the idea for my study -- Thank you for sharing Csikszentmihalyi's theory of flow with me and sending your smiles and winks my way. Your expertise and encouragement were greatly appreciated.
- To Dr. Victoria Fu and Dr. Diane Horm-Wingerd, my committee members -- Thank you for your support, guidance, and suggestions.
- To Marilyn Cavell, Lisa Godwin, Melissa Groves, and Teresa Hypes -- Thank you for all your much-needed help on the computer.
- To Jenny Andrews and Sheridan Warren -- Thank you for your support and for sharing all the ups and downs of research with me.

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SKILLS AND CHALLENGES IN CHILD CARE

Flow (Csikszentmihalyi, 1975) refers to the "holistic sensation that people feel when they act with total involvement" (p. 36). People who experience flow are intrinsically motivated, feel in control of the situation, and receive immediate feedback during the activity. According to Csikszentmihalyi, flow is likely to occur when perceived skills match the opportunities for action or challenges of the activity. If perceived challenges are greater than skills, worry or anxiety is likely to result. In contrast, if perceived skill is greater than the challenges, boredom is likely to occur. The flow experience is depicted by Csikszentmihalyi (1982a) as a diagonal line on a graph (Figure 1) in which skills and challenges are balanced. As skills and challenges increase, one moves up the diagonal line where more complex behavior is required to meet the challenges. Studies of persons involved in rock climbing (MacAloon & Csikszentmihalyi, 1975), chess (Csikszentmihalyi, 1975), surgery (Holcomb & Csikszentmihalyi, 1979), rock dancing (Hendin & Csikszentmihalyi, 1975), attending high school classes (Csikszentmihalyi, 1979), and experiencing everyday living (Graef, Csikszentmihalyi, and Gianinno, 1983) have supported Csikszentmihalyi's theory of flow. Research on job satisfaction also supports Csikszentmihalyi's theory of flow by emphasizing the importance of challenging work (Herzberg, 1968; Katz and Kahn, 1966; Morse, 1953; Gellerman, 1963).

Insert Figure 1 about here

Child care employment offers many challenges and requires complex and varied skills (Blum, 1983; Chambers, 1971; Howe, 1969; Hymes, 1981; Leeper, 1968; Piaget, 1969, 1966; Read & Patterson, 1980; Yardley, 1971). This study was conducted to test Csikszentmihalyi's concept of flow in regard to child care employment. Teachers' perceptions of skills and challenges involved in child care and their relationship to job satisfaction and sense of well-being were studied. Two sources of child care skills, child development education and experience, were also examined in relationship to perceived child care skills and challenges.

Little is known about the effects of child care training and experience on perceived challenges, skill, flow, and job satisfaction. Most studies of the effects of teacher training have focused on child performance outcomes. Indeed, although early studies showed no effect of teacher education and experience on children's performance (Coleman, 1966; Karnes, 1970; Railsback, 1965), more recent ones have found teacher skills to have an effect on cognition and language (Harvey, 1966; Meissner, 1977; Oyemade & Chargois, 1977; Seefeldt, 1973) or on teaching style. Those studies, which dealt with the effects of teacher characteristics on children's performance, were focused on cognitive rather than affective components of the educational setting. However, the love of learning may come through having teachers who enjoy teaching (Csikszentmihalyi, 1982b). Job satisfaction and perceived sense of

well-being are two measures of the enjoyment of teaching that were examined in this study.

Based on Csikszentmihalyi's (1975) theory, it was hypothesized that child development training and experience would each be related to perceived skills, challenges, and flow. Exploratory analysis was conducted to determine whether different domains of child care responsibilities elicit differential perceptions of flow. Job satisfaction and sense of well-being were predicted to be significantly correlated with measures of flow and its components.

Method

Subjects

Female teachers (N=192) of four-year-old children comprised the sample for the present study. A random selection was made of 400 of the nearly 800 child care centers licensed by the Commonwealth of Virginia. For each center selected, directors were sent a letter describing the project and asking them to randomly select one full-time (employed 30 or more hours per week) teacher of 4-year-olds for inclusion in the study. Directors then gave the selected teacher an envelope containing the project description and a survey form. Following the first mailing, responses were received from 157 participants. A second mailing yielded 78 responses, thus constituting a 59% response rate. Of the respondents, 192 worked full-time; 41 were employed part-time and thus eliminated from the study. Two additional subjects were eliminated because they did not

teach in a classroom comprised predominantly of 4-year-old children, thus the final sample included 192 subjects. A breakdown of subjects by number of years of child development or early childhood education and experience is shown in Table 1.

Insert Table 1 about here

Procedure

A Likert-type questionnaire was designed to measure caregivers' perceptions of skills, challenges, and flow during each of ten activities or areas of responsibility related to child care. The ten activities included (a) group time, (b) indoor activity time, (c) outdoor play, (d) toileting, (e) lunch time, (f) nap time, (g) control of children's behavior, (h) nurturance of children, (i) staff relations, and (j) work with parents. For each of the ten activities, the questionnaire consisted of (a) a 10-point scale of perceived level of challenge presented, (b) a 10-point scale of perceived level of skill available to meet the challenges, (c) a 7-point scale of tension-relaxation experienced, and (d) a 7-point scale of sadness-happiness experienced. Respondents also rated job satisfaction on a 10-point scale from low to high and reported the degree to which it was necessary for them to work on a scale from 1 (not at all necessary) to 10 (absolutely necessary).

Results

For each activity, a discrepancy score was computed by subtracting the challenge rating from the skill rating. Thus, if a respondent perceived her skills as greater than the challenges on a particular activity, the flow score fell in the negative range. Conversely, if challenges exceeded skills, the discrepancy score was a positive number. A flow score was computed as the absolute value of the discrepancy score. Activities were combined and mean scores were computed to construct three dependent measures. A mean teaching score was computed by combining the mean ratings on indoor and group time. A mean routine score was computed by combining the mean ratings on toilet, nap, and lunch time. A mean relationship score was computed by combining ratings on control of children's behavior, nurturance of children, and staff relations. Since Kendall's correlation showed child development education as not significantly related to the skills, challenges, happiness, and tenseness of work with parents, this area of responsibility was not included in the relationship domain. Following Graef, Csikszentmihalyi, and Gianinno (1983), ratings on happiness and relaxation were combined to compute a measure of well-being.

Respondents to the first mailing completed their questionnaires approximately 7 weeks before the follow up mailing. Thus, it was possible that ratings were influenced by seasonal variations or other unexplained events. T-tests were computed for each variable to determine whether responses received from the first mailing differed significantly from those of the second mailing. One variable, the discrepancy score on

outdoor time, yielded a significant difference ($t=2.32$, $df=129$, $p<.05$) and was dropped from further analyses.

Means and standard deviations of subjects' responses on each item are shown in Tables 2 and 3. Mean discrepancy scores (skills subtracted from the challenges) for the activities ranged from -3.57 to -1.58. Mean flow scores (absolute value of skill/challenge discrepancy) ranged from 2.20 to 3.85. A series of paired t-tests indicated that, as a group, respondents perceived their skills as exceeding the challenges on all ten of the activities and the three computed measures. T's ranged from -13.37 to -7.59, all significant at the $p<.0001$ level. On a flow graph, the discrepancies reported by these subjects should place most of the subjects well below the diagonal line (Figure 2) and in the area in which one would expect boredom or anxiety. Means and standard deviations for flow scores and discrepancy scores are shown in Table 4. The mean rating of job satisfaction was 7.71 ($SD=2.18$) and the mean rating on how necessary it was to work was 7.53 ($SD=2.99$).

Insert Tables 2, 3, & 4 and Figure 2 about here

To test the hypothesis that perceptions of job-related challenges, skills, skill/challenge discrepancies, and flow scores are related to child care education and experience, a series of 2-way ANOVAS with four levels of child development education and three levels of experience were computed (see Tables 5 and 6). The dependent variables were mean scores on items related to teaching, routines, and relationships. Child development education was significantly related to the following: (a)

an increase in perceived challenges and in perceived skills in the teaching domain, $F(3,185)=3.38, p<.05$ and $F(3,185)=3.09, p<.05$; (b) perceived challenges on the relationship score, $F(3,188)=2.80, p<.05$; and (c) perceived skills on the routine score, $F(3,187)=3.11, p<.05$. Years of work experience with children was significantly related to a positive sense of well-being during the teaching activities $F(2,185)=6.52, p<.05$. ANOVAS showed no significant differences, attributable to education or experience, on skill/challenge discrepancy scores for any of the ten activities or for computed mean scores across the domains of teaching, routines, and relationships.

Insert Tables 5 and 6 about here

Post hoc means comparisons (Scheffes) indicated that, in the teaching domain, those with four or more years of post-secondary child development training had perceptions of job-related challenges which were significantly greater than those of teachers with either high school training only ($p<.05$) or with 1 to 3 years of post-secondary child development education ($p<.05$). Those with four or more years of post-secondary child development also had significantly higher perceptions of their skills in the teaching domain ($p<.05$) and in managing routines ($p<.05$), than did those with only high school training. These same two groups differed in regard to the challenges of relationships; those with four or more years of training perceived higher levels of challenges than did teachers with high school alone ($p<.05$). Those who had no child development training at any level, perceived skills and

challenges that did not differ from those with four or more years of education in child development or early childhood education. Teachers with two or fewer years of child care experience had a significantly lower sense of well-being in regard to teaching ($p < .05$) than did those with seven or more years.

To determine whether perceived challenges, skills, and flow experiences differ according to the nature of the activity, comparisons across domains were computed by paired t-tests (Table 7). Perceived challenges in the teaching domain were significantly greater than those for relationships ($p < .05$) and for routines ($p < .001$). Challenges in the relationships domain were also perceived as higher than those in routines ($p < .0001$). In regard to skills, the relationship domain yielded the highest mean score, and it was significantly greater than the perceived skills for routines ($p < .001$), but not greater than for teaching ($p < .1$). In regard to skill-challenge discrepancy scores, teachers perceived the mismatch of skills and challenges as less in the relationships domain and in the teaching domain than in regard to routines ($p < .001$). Sense of well-being did not differ significantly between domains.

Insert Table 7 about here

Correlates of job satisfaction were assessed via Kendall's Tau Coefficients (Tables 8, 9, & 10). Perceived skills on all ten activities and the three computed measures were significantly related to job satisfaction ($p < .01$). In contrast, when perceived challenges were correlated with job satisfaction tau's were very low (range = .02 to .10),

except for group time ($\tau=.15$) and teaching ($\tau=.13$) which were low. For all activities and domains, job satisfaction was significantly correlated with sense of well-being ($p<.001$) and its components which were happiness ($p<.01$) and relaxation ($p<.001$). Job satisfaction was not significantly correlated with flow scores on either activities or domains (τ range = .01 to $-.04$). Job satisfaction was not significantly related to education, $F(3,175)=0.11$, $p<1$, or to experience, $F(3,175)=1.69$, $p<1$.

Insert Tables 8, 9, and 10 about here

The sense of well-being on each activity and in each domain yielded moderately low to moderate correlations with skills in each of those areas; Kendall's Tau coefficients ranged from .23 to .47 (all $p<.001$). Correlations between challenges and sense of well-being on each activity and domain were low (range= $.02$ to $.16$). The correlation between well-being and flow scores were low (range = $.04$ to $.18$) except for nurturance of children ($\tau=-.79$) and the relationship domain ($\tau=-.89$). The direction of these last two correlations was negative indicating that as flow scores decreased (less discrepancy between skills and challenges), sense of well-being increased.

To test the hypothesis that a higher sense of well-being occurs when skills and challenges are equal and a lower sense of well-being occurs when skills exceed challenges or challenges exceed skills, a series of one-way ANOVAS with three levels of discrepancy scores were computed. The dependent variable in each ANOVA was sense of well-being on either the teaching, routine, or relationship domain. Among subjects who rated

their challenges higher than skills on relationships, the sense of well-being was lower than among subjects who rated their skills and challenges as equal or their skills greater than the challenges ($p < .05$).

A multiple regression with job satisfaction as the dependent variable showed the well-being (mean rating on the nine activities) as the best predictor for job satisfaction ($r^2 = .25$). The second best predictor for job satisfaction was challenges on relationships which raised the r^2 to .28. The best predictor on overall well-being was skills in relationships ($r^2 = .13$). The discrepancy score on relationships, the second best predictor of well-being, raised the r^2 to .17.

Discussion

Overall, teachers in the present study perceived their skills as exceeding the challenges in every activity reported. According to Csikszentmihalyi's theory (1975), when there is a mismatch between perceived challenges and skills, individuals tend to experience unpleasant emotions. Specifically, he proposed that when skills exceed challenges, individuals are likely to experience boredom and, if the mismatch is extreme, they experience anxiety. Likewise, when challenges exceed skills, worry or anxiety is likely to occur. In the present study, since perceived skills significantly exceeded perceived challenges on every measure, the participants could be characterized as being "out of flow". According to the Csikszentmihalyi's theory, they would also be expected to report a low sense of well-being and possibly low job satisfaction. However, the results did not totally support that

hypothesis. In spite of significantly greater skills than challenges, the mean job satisfaction rating was 7.71 out of a possible 10 and the mean sense of well-being was 11.47 out of a possible rating of 14. Since job satisfaction was related to skills (not challenges and flow scores), it seems reasonable to propose that perceived competency was a major source of their sense of well-being and job satisfaction. This finding is congruent with Harter's (1981) model of intrinsic motivation in which mastery and competence are proposed as important predictors of motivation for tasks. Since education was related to skills in the teaching and routines domains, it seems reasonable to propose that four or more years of child development education may be a source of skill acquisition which contributes to both well-being and job satisfaction.

Even though for the majority of subjects skills exceeded challenges, for some the reverse was true and thus discrepancy scores had a positive value. When flow scores were computed as the absolute value of the mismatch between skills and challenges, different information was obtained. The flow scores represent the distance from the hypothetical flow diagonal in which skills and challenges are perfectly matched. When flow scores were examined with job satisfaction Kendall's Correlation coefficients were extremely low (range=-.05 to .05), while the relationship between flow scores and sense of well-being varied (range=-.89 to .18). The strong relationships with flow were found with nurturance of children ($\tau=-.79$) and the relationship domain ($\tau=-.89$). Thus the lower the absolute distance from the flow diagonal, the greater the sense of well-being. Apparently, a balance between skills and challenges in relationships and child nurturance are important

determinants of a positive sense of well-being among child care teachers. Other significant but low correlates of sense of well-being included toileting, nap time, staff relations, working with parents, and routines on which the sense of well-being was actually higher if the mismatch between skills and challenges was higher. It may be that higher challenges in those areas, which would have lessened the mismatch, actually represent areas in which challenges are perceived as difficulties instead of opportunities for action. In fact, examination of correlations between challenges and sense of well-being for indoor activities, nurturance of children, and total teaching scores were significantly and positively related to sense of well-being. Apparently challenges of those aspects of child care were seen positively where as for challenges at nap time and working with parents gave a negative sense of well-being apparently from unhappiness or tension.

Since child development education was not related to an increase in perceived skills on the relationship domain or perceived challenges in the routine domain, college child development curriculum guidelines may need to be altered to develop the students skills in relationships and to enable them to see challenges in routines. Such changes should increase the proportion of time spent in flow.

The finding that flow scores did not differ significantly according to education or experience can be interpreted within Csikszentmihalyi's flow theory in that if both skills and challenges increase one moves further up the diagonal but may still maintain the same degree of flow. In the present study, education was a factor in placement further up the diagonal on all domains.

The finding that years of experience with children was positively related to well-being in the teaching domain may reflect two possible interpretations. Either increased experience contributed to their sense of well-being or those who enjoy teaching remained in the job longer.

The finding that different types of activities elicited differential perceptions among the teachers is similar to Greaf, Csikszentmihalyi, and Gianinno's (1983) description of everyday experiences in which one is not always in a state of flow, but rather in anxiety or boredom situations at least part of the time. Overall, teaching activities were perceived as more challenging than either relationships or routines. This is consistent with the finding that discrepancy scores between skills and challenges were lower for the teaching domain than for relationships or routines. As shown in Figure 2, the subjects as a group were closer, although not significantly, to the flow diagonal while in the teaching domain than in relationships or routines. According to Csikszentmihalyi (1982a), activities placed below the diagonal line where boredom is likely to occur, can in actuality be enjoyable if they provide relief from anxiety situations that often occur during the day. Csikszentmihalyi (1983) stated that

the prevalence of happy experiences that are extremely low in challenges and skills should not be obscure the fact that restful occasions are enjoyed because they contrast with the more challenging encounters of daily life. (p. 176)

This may explain why the teachers in the study, who would be expected to experience boredom since child care activities were placed below the diagonal line, did not experience low job satisfaction or a negative sense of well-being. Another interpretation may be that the lack of child care activities placed above the diagonal line where challenges exceed skills, is a reflection of the low prestige placed on work with children.

The finding that lower discrepancies between skills and challenges on nurturance of children and relationships was highly correlated with a better sense of well-being, is consistent with Csikszentmihalyi's theory of flow. This high correlation for relationships, compared to other child care activities, may also be partially explained by the lack of control in relationships which is one of Csikszentmihalyi's dimensions of flow. Perhaps little control in relationships results in the width of the band being very narrow while for other child care activities the width of the band is greater. Relationships would be the most emotionally potent area and thus most likely to evoke tension or unhappy feelings if out of flow. This is consistent with previous research (Johnston, 1984; Neugebauer, 1984) which indicates that relationships between teachers and children in child care are sources of both satisfaction and frustration. It is also congruent with the fact that high "burnout" rates are found in child care and human service organizations (Seiderman, 1978).

Future research dealing with the skills and challenges of child care could include indepth interviews to determine the nature of the challenges perceived by the teachers in different activities and their skills to match the challenges. Were the challenges obstacles to overcome or were they positive opportunities for action? Can obstacles be viewed as

challenges if the teacher has more control over the situation? Did education or experience affect the type of challenges or skills they perceived in their child care work? Revising the questionnaire to also include teachers' perception of their control during the activities may provide more support for Harter's (1981) model of intrinsic motivation and also provide more insight into job satisfaction in child care. A similar questionnaire filled out by a child care director assessing the skills of a teacher at her center could be used to obtain a more objective measure of a teacher's ability. This could then be correlated with the teacher's own rating to determine if perceived skills are accurately reflected in the questionnaire. By assessing teachers' knowledge of child development, one could also determine if child development knowledge affects the perceived skills and challenges of work with children. Finally, teachers with no child development education could be examined more closely to see if they more readily experience "burnout". Very few teachers with no education were found to have worked a long time with children, whereas teachers with education were found to remain working with children. One explanation may be that teachers with no education see their job as temporary from the start. It is also possible that teachers experiencing job dissatisfaction are more likely to leave the child care profession but this can not be determined in the present study. Therefore a follow-up study involving teachers who are presently working in child care and those who have left the child care profession may provide more insight into teacher "burnout".

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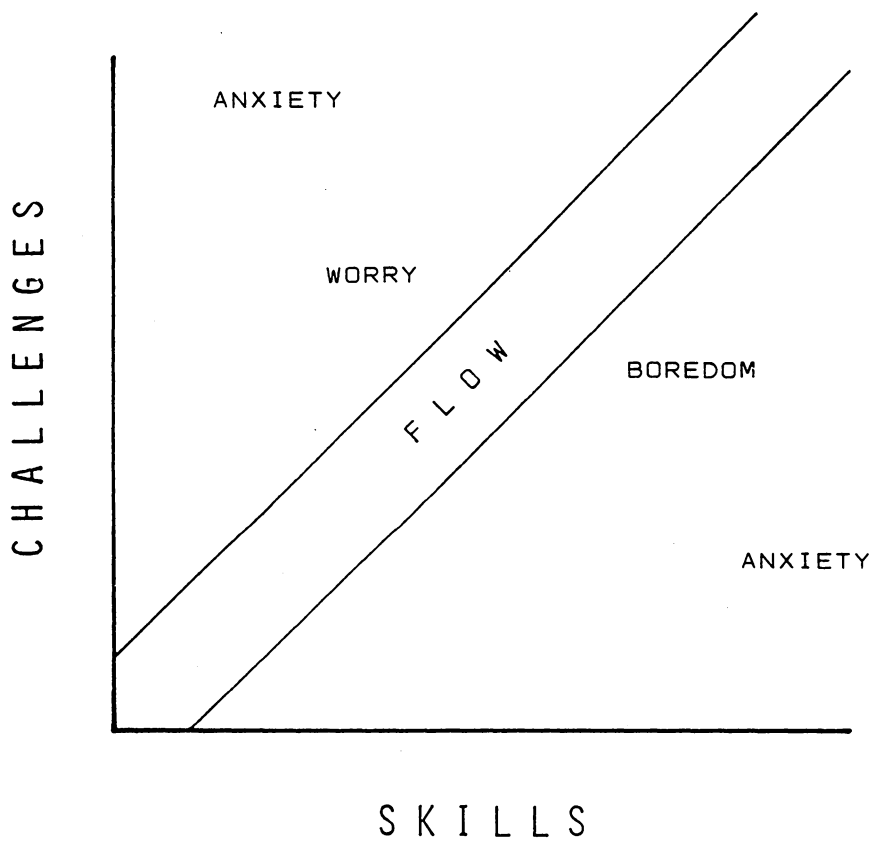


FIGURE 1.--CSIKSZENTMIHAYLI'S (1975) MODEL OF FLOW.

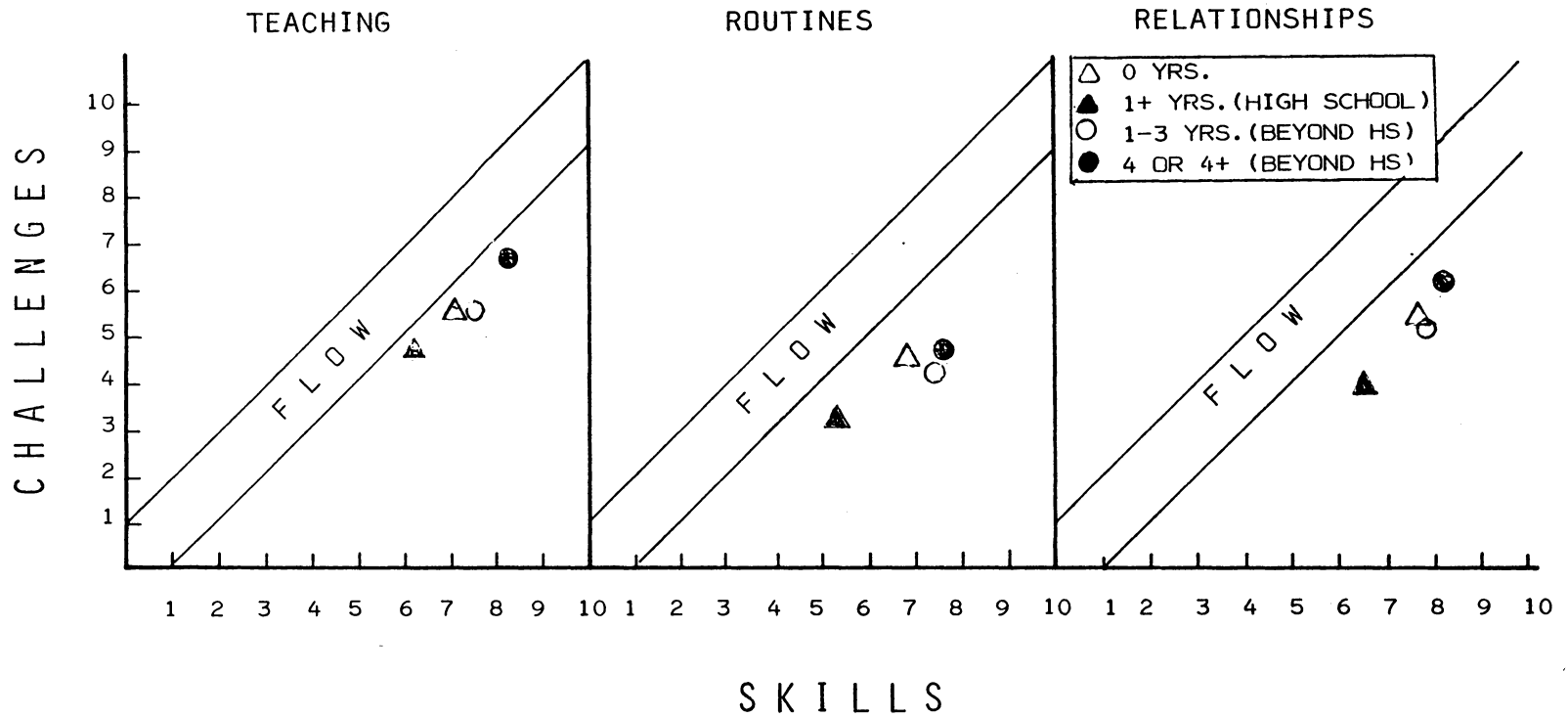


FIGURE 2. -- FLOW PERCEPTIONS AMONG TEACHERS WITH VARYING AMOUNTS OF CHILD DEVELOPMENT EDUCATION.

Table 1

Description of Subjects by Years of Experience with Children and Child Development Education

CHILD DEVELOPMENT EDUCATION	YEARS OF EXPERIENCE			
	1 to 2	3 to 6	7 to 25	Total
0 years	14	13	13	40
1 or more years (high school only)	5	6	2	13
1-3 years (post secondary or CDA)	11	20	31	62
4 or more years (post secondary or CDA)	11	20	42	73
Total	41	59	88	188

Note. -- Child development education included college study in child development or early childhood education as well as Child Development Associate training.

Table 2

Means, Standard Deviations, and t Statistics for Teachers' Ratings of Challenges and Skills

Activities:	CHALLENGES		SKILLS		t
	M	SD	M	SD	
Group time	5.94	2.64	7.68	2.12	-8.32*
Indoor activity time	6.34	2.51	7.81	1.97	-7.60*
Outdoor play	4.94	3.09	7.22	2.68	-8.59*
Toileting	3.66	2.99	7.23	2.77	-13.21*
Lunch time	5.03	2.76	7.54	2.38	-11.14*
Nap time	4.84	2.99	7.51	2.57	-10.80*
Control of children's behavior	6.28	2.63	7.86	1.93	-7.59*
Nurturance of children	6.03	2.87	8.10	2.08	-9.88*
Staff relations	4.94	3.31	7.57	2.55	-9.78*
Work with parents	5.05	3.31	7.66	2.46	-10.13*
Computed measures:					
Teaching	6.14	2.35	7.72	1.93	-8.68*
Routines	4.52	2.56	7.40	2.38	-13.37*
Relationships	5.74	2.51	7.84	1.82	-10.83*

Note. -- N = 159 to 191

*p < .0001

Table 3

Means and Standard Deviations for Teachers' Ratings of Happiness¹ and Relaxation²

Activities:	HAPPINESS		RELAXATION	
	M	SD	M	SD
Group time	5.97	1.14	5.94	1.41
Indoor activity time	5.73	1.10	5.68	1.35
Outdoor play	5.83	1.48	6.01	1.38
Toileting	5.12	1.56	5.82	1.41
Lunch time	5.51	1.30	5.63	1.46
Nap time	5.63	1.49	5.83	1.46
Control of children's behavior	5.27	1.40	5.22	1.60
Nurturance of children	6.16	1.01	6.08	1.20
Staff relations	5.84	1.55	5.82	1.64
Work with parents	6.04	1.20	6.06	1.27
Computed measures:				
Teaching	5.85	.98	5.81	1.25
Routines	5.42	1.19	5.76	1.17
Relationships	5.76	.98	5.71	1.14

Note. -- N = 158 to 192

¹Ratings were based on a scale from 1 (sad) to 7(happy).

²Ratings were based on a scale from 1(tense) to 7(relaxed).

Table 4

Means and Standard Deviations for Discrepancy¹ and Flow² Scores Between Skills and Challenges

Activities:	DISCREPANCY SCORES		FLOW SCORES	
	M	SD	M	SD
Group time	-1.73	2.86	2.32	2.41
Indoor activity time	-1.82	2.87	2.51	2.29
Toileting	-3.57	3.66	3.85	3.39
Lunch time	-2.51	3.06	2.88	2.73
Nap time	-2.67	3.33	3.13	2.92
Control of children's behavior	-1.58	2.87	2.20	2.44
Nurturance of Children	-2.08	2.86	2.41	2.59
Staff relations	-2.63	3.70	3.21	3.22
Work with parents	-2.61	3.51	3.00	3.19
Computed measures:				
Teaching	-1.75	2.77	2.33	2.31
Routines	-2.88	2.96	3.08	2.77
Relationships	-2.10	2.69	2.41	2.43

Note. -- N = 181 to 191

¹Discrepancy scores were computed by subtracting ratings of perceived skills from perceived challenges.

²Flow scores were computed as the absolute value of the difference between skills and challenges.

Table 5

ANOVAS: Effects of Child Development Education and Experience on Perceived Challenges and Skills

	CHALLENGE		SKILLS	
	Education	Experience	Education	Experience
Activites:	F	F	F	F
Group time	1.55	1.86	2.25	3.73*
Indoor activity time	2.62	2.71	2.16	0.67
Outdoor play	0.68	6.46*	0.16	2.15
Toileting	0.74	1.86	0.21	1.17
Lunch time	1.13	1.45	0.69	0.73
Nap time	1.33	0.49	0.69	0.18
Control of children's behavior	1.69	0.13	1.99	2.73
Nurturance of children	1.98	1.23	3.55*	1.98
Staff relations	0.97	0.77	0.52	1.16
Work with parents	1.83	0.24	1.40	1.37
Computed measures:				
Teaching	3.38*	0.81	3.09*	2.48
Routines	1.04	1.15	3.11*	0.92
Relationships	2.80*	0.55	2.04	2.16

Note. -- N = 155 to 189

*p<.05

Table 6

ANOVAS: Effects of Child Development Education and Experience on Discrepancy Scores¹ and Flow Scores²

Activities:	DISCREPANCY SCORES		FLOW SCORES	
	Education	Experience	Education	Experience
	F	F	F	F
Group time	1.21	0.18	0.50	1.35
Indoor activity time	1.16	0.79	0.09	1.37
Toileting	0.23	1.23	0.89	0.27
Lunch time	0.86	0.51	0.30	0.32
Nap time	0.06	0.27	0.31	0.12*
Control of children's behavior	0.43	2.02	0.54	0.05
Nurturance of children	0.20	0.28	0.08	0.35
Staff relations	0.46	0.03	1.60	0.09
Work with parents	0.50	0.08	0.75	0.06
Computed measures:				
Teaching	0.82	0.45	0.35	1.70
Routines	0.46	0.64	0.44	0.46
Relationships	0.57	0.23	1.10	0.31

Note. -- N = 148 to 189

p < .05

¹Discrepancy scores were computed by subtracting the ratings of perceived skills from the perceived challenges

²Flow scores were computed as the absolute value of the difference between skills and challenges.

Table 7

Means, Standard Deviations and Two-tailed t Tests Between Domains

	M	SD	t
Challenges			
Teaching	6.12	2.36	3.05*
Relationships	5.73	2.51	7.04***
Routines	4.51	2.56	8.89***
Teaching	-	-	
Skills			
Teaching	7.67	1.99	1.58
Relationships	7.84	1.82	3.55**
Routines	7.41	2.38	1.85
Teaching	-	-	
Discrepancy scores			
Teaching	-1.76	2.78	2.28
Relationships	-2.13	2.70	4.45***
Routines	-2.88	2.96	5.37***
Teaching	-	-	
Well-being			
Teaching	11.66	1.98	1.49
Relationships	11.48	2.02	1.79
Routines	11.19	2.19	0.41
Teaching	-	-	

Note. -- N = 188 to 192

* p < .01

*** p < .001

Table 8

Kendall Correlation Coefficients: Skills with Job Satisfaction¹ and Sense of Well-being²

SKILLS	JOB SATISFACTION	SENSE OF WELL-BEING
Activities:		
Group time	.24****	.38****
Indoor activity time	.19**	.35****
Outdoor play	.14*	.33****
Toileting	.16**	.38****
Lunch time	.17**	.25****
Nap time	.15**	.23****
Control of children's behavior	.23****	.34****
Nurturance of children	.17****	.44****
Staff relations		
Work with parents	.19****	.47****
Computed Variables:		
Teaching	.23****	.38****
Relationships	.24****	.39****
Routines	.18	.31****

N -- = 154 to 190

* p<.05

** p<.01

*** p<.001

¹Job satisfaction was an overall rating from 1 to 10.

²Sense of well-being was computed separately for each activity by taking the mean of the ratings of happiness and relaxation

Table 9

Kendall Correlation Coefficients: Challenges With Job Satisfaction¹ and Sense of Well-being²

CHALLENGES	JOB SATISFACTION	SENSE OF WELL-BEING
Activities		
Group time	.15*	.09
Indoor activity time	.10	.11*
Outdoor play	.08	.07
Toileting	.04	-.08
Lunch time	.06	-.07
Nap time	.02	-.16*
Control of children's behavior	.07	-.09*
Nurturance of children	.09	.12*
Staff relations		-.08
Work with parents	.10*	-.12
Computed Measures:		
Teaching	.13**	.14*
Relationships	.10*	-.02
Routines	.03	-.08

Note -- N = 151 to 191

* p<.05

** p<.01

¹Job satisfaction was an overall rating from 1 to 10.

²Sense of well-being was computed separately for each activity by taking the mean of the ratings of happiness and relaxation

Table 10

Kendall Correlation Coefficients: Flow Scores¹ With Job Satisfaction² and Sense of Well-being³

FLOW SCORES	JOB SATISFACTION	SENSE OF WELL-BEING
Activities:		
Group time	-.03	.06
Indoor activity time	-.02	.06
Toileting	.05	.18****
Lunch time	.03	.07
Nap time	-.01	.14***
Control of children's behavior	-.05	.09
Nurturance of children	-.02	-.79****
Staff relations	-.04	.15**
Work with parents	-.04	.18****
Computed Measures:		
Teaching	-.02	.04
Relationships	-.03	-.89****
Routines	.01	.12***

Note -- N = 178 to 190

** p<.01

*** p<.001

¹Flow was computed as the absolute value of the difference between perceived challenges and skills. Thus the lower the score the higher the state of flow.

²Job satisfaction was an overall rating from 1 to 10.

³Sense of well-being was computed separately for each activity as the mean of the ratings of happiness and relaxation.

APPENDIX A
LITERATURE REVIEW

APPENDIX A. LITERATURE REVIEW

Flow

Flow, a term used by Csikszentmihalyi, is referred to as a "holistic sensation that people feel when they act with total involvement" (Csikszentmihalyi, 1975a, p. 36). When experiencing flow, there is a merging of action and awareness; one is aware of one's actions but not of the awareness itself. One's attention is also centered on a limited stimulus field; stimuli not relevant to the flow activity are ignored. Loss of ego or consciousness occurs. In a flow state, one experiences control of one's actions and the environment. The demands for action are noncontradictory and clear unambiguous feedback to one's actions is provided. The person in flow does not evaluate or reflect on this feedback for one is too concerned with the experience itself. Finally, the flow experience needs no external rewards; it is experienced as autotelic or intrinsically rewarding.

Although flow can be experienced in any activity in which one is actively involved with the environment, certain activities and situations lend themselves to the flow experience. According to Csikszentmihalyi's (1975a) theory, flow is likely to occur when perceived skills match the opportunities for action or challenges of the environment. If perceived challenges are greater than skills, worry or anxiety results. If perceived skill is greater than challenges, boredom occurs. When boredom or anxiety result, intrinsic motivation is lost and flow is interrupted. The flow experience is

depicted by Csikszentmihalyi (1982) as a diagonal line on a graph in which skills and challenges are balanced. As skills and challenges of the environment increase, one moves up the diagonal line where more complex behavior is required to meet the challenges of the environment. Thus, activities such as rock climbing, athletics, art, and creativity which have infinite ceilings are more conducive to the flow experience.

Using the flow model as a framework of reference, the activities of rock climbing (MacAloon & Csikszentmihalyi, 1975), chess (Csikszentmihalyi, 1975), and surgery (Holcomb & Csikszentmihalyi, 1975) have been studied through personal interviews. Rock dancing (Hendin & Csikszentmihalyi, 1975) was also studied by open-ended interviews and by a questionnaire on challenges and skills involved in the activity. A higher incidence of flow was reported by subjects who were deeply involved in dancing, than among those who did not. Subjects deeply involved in dancing also had an optimum ratio of challenges to skills. Thus, the theoretical model of flow has been confirmed in several studies involving both leisure and job-related activities.

Flow has also been studied among students at school. One study by Csikszentmihalyi (1979) involved high school students who identified their favorite activity and rated it on the dimensions of the flow experience. After students were instructed about challenge and skills, they placed their favorite activity on the flow diagram. Those preferred activities fell on the diagonal line of the flow model 80% of the time (Csikszentmihalyi, 1979). These subjects were also studied by the experiential sampling method, in which an electronic

vibrating unit randomly signaled the students during classes at school to make written reports of their states. Classes rated higher on flow by students in the previous investigation, were ones in which students were in better moods when beeped in those classes during a later study. Thus, the matching of skills and challenges seems to result in increased satisfaction in the student role.

Intrinsic motivation is often present when in a state of flow. Although it is possible to achieve flow even when extrinsic motivation exists, intrinsic motivation seems to enhance satisfaction with activities. Graef, Csikszentmihalyi, and Gianinno (1983) investigated intrinsic motivation in everyday experiences and its relationship to psychological well being. One hundred and seven urban, lower-middle and middle class working men and women served as subjects. The experiential sampling method (ESM) in which subjects were paged six to nine times a day on a randomized schedule for seven days was utilized. When paged, subjects recorded their present situation, as well as their emotional and cognitive states. Results indicated that levels of intrinsic motivation differed for various activities according to the freedom to choose the activity; discretionary activities were four times more likely to be intrinsically motivated than were obligatory activities (Graef et al., 1983). As subjects experienced higher levels of intrinsic motivation, they rated themselves as happier. Subjects with higher levels of extrinsically motivated experiences rated themselves less happy, less active, more tense, more bored, and their sense of competence was lower. Graef et al. concluded that type of activity or lifestyle did not determine

whether a person was intrinsically or extrinsically motivated for "intrinsic motivation is a state of mind" (Graef et al., 1983).

Flow and Work Satisfaction

Although flow activities are often intrinsically motivating, external goals may also be present. Sometimes it is the external goals that cause people to enter into the flow state. Concentration on action has been caused by competition, material gain, and danger (Csikszentmihalyi, 1975a).

Conditions that are conducive to the flow experience in terms of a match between skills and challenges have been studied in the job situation. Herzberg's motivator-hygiene theory (1968) stated that challenging work in which the employee assumes responsibility is the only way to motivate employees. Herzberg's study (1968) involving job enrichment by vertical loading of a job to produce challenging work supported his theory i. e., subjects whose jobs were enriched resulted in increased performance and liking of their job. A study by Katz and Kahn (1966) depicted tasks that are more varied, complex, and challenging as resulting in higher work gratification than less skilled routine jobs. Katz and Kahn (1966) also describe most people as wanting more skill-demanding jobs than their present job. With more demanding jobs, workers were happier, better adjusted, and suffered fewer health complaints. Greater work gratification has been found among high-level occupational groups even when wages and conditions of work are held constant. Morse (1953) concluded that workers derive satisfaction in the expression of their skills and in interesting and challenging work. Gellerman (1963) found workers to

respond best to goals that are moderately difficult to achieve. When kindergarten to high school teachers were surveyed about job likes, challenge was ranked fourth (Hawkes & Dedrick, 1983).

Intrinsic rewards, experienced with flow activities, have also been explored with teacher occupations. Lortie (1975) found teachers' major source of satisfaction to be derived from intrinsic rewards instead of extrinsic rewards; positive contact with students resulted in the greatest satisfaction. This finding supports Herzberg's (1968) theory that hygiene factors or externally imposed attempts by management to motivate employees are ineffective; lack of hygiene factors result in job dissatisfaction, but does not cause job satisfaction. The term high "'order need strength', from business management, is used to denote those needs whose satisfaction would increase individual growth by the development of skills and attitudes which would increase productivity " (Pastor & Erlandson, 1982). These higher order needs include (a) participation in decision making, (b) the use of a variety of valued skills and abilities, (c) freedom and independence, (d) challenge (e) expression of creativity, and (f) opportunity for learning (Hackman & Oldham, 1974). Brief and Aldag (1978) stated that the satisfaction of higher order needs is "an incentive for continued effort to perform effectively" and "a match between need strength and job design bring about optimum productivity"(Lawler, 1973; Deci,1975). Pastor and Erlandson (1982) found secondary public school teachers to have a predominance of higher order need strength but job satisfaction varied by school districts. Blase's (1982) social-psychological grounded theory of teacher stress

and burnout states that intrinsic rewards earned in work with students tend to increase teacher satisfaction, involvement, motivation, and effort.

Although many articles have been published on job satisfaction with teachers, only a few of the articles have been based on actual research. Only three known investigations have utilized teachers of preschool children as subjects (Johnston, 1984; Neugebauer, 1984; Washtenaw County Association for the Education of Young Children, 1986). From written problem descriptions of child care teachers, Johnston (1984) identified seven major problem areas for prekindergarten and child care teachers. They are a) subordinate staff relations, b) control and nurturance of children, c) remediation, d) relations with supervisors, e) parent cooperation, f) management of time, and g) management of routines. Johnston also developed a Prekindergarten Teacher Problem Checklist. A survey by Neugebauer (1984) identified six major sources of satisfaction and frustration of child care workers. The six major sources of satisfaction in order of frequency are a) observing progress in children, b) relationships with children, c) challenge of the work, d) pride in performing a service, e) relationships with parents, and f) recognition shown by staff. The six major sources of frustration are a) rate of pay, b) prospects for advancement, c) physical work environment, d) style of supervision, e) number of hours worked, and f) inflexible personnel policies. A survey conducted in Michigan by Washtenaw County Association for the Education of Young Children (NCAEYC, 1986) showed 95% of the employees working in child care as liking their job and

gaining satisfaction from interacting with children and parents. Approximately two-thirds of the employees were dissatisfied with their salaries, benefits, or opportunities to progress in salary. Job commitment was related to a) being involved in setting policy and taking responsibility, b) having open communication, flexibility, and personal support, and c) being informed of the happenings of the center.

Qualities of Successful Teachers

Characteristics of "good teachers" have often been described in terms of both personal qualities and professional skills. Kohut (1981) has distinguished the difference between teaching style and teaching techniques. The former deals with personality traits, attitudes, and feelings, whereas the latter deals with methods or strategies used by teachers to accomplish their objectives.

Personal qualities. Warmth, sensitivity, flexibility, honesty, integrity, naturalness, sense of humor, acceptance of individual differences, ability to support growth without being overprotective, physical strength, vitality, compassion, self-confidence, ability to sustain effort, and the ability to learn from experience have been used to describe effective teachers (Read & Patterson, 1980; Yardley, 1971; Hymes, 1981). Bacmeisfer (n.d.) has identified additional personal qualities for effective teachers of young children. Among these are (a) patience, (b) physical health, (c) self-understanding and serenity, (d) genuine respect for children, (e) a child's eye perspective, and (f) a sense of humor. Bacmeisfer also believes good teachers should possess the following convictions: (a) significant growth and

learning occur before first grade, (b) the child is striving to grow and learn, and (c) work with children and parents is as important as teaching skills and competencies. Yawkey (1974) described effective teachers of young children as possessing (a) attitudes of being positive, willingness to learn from children, and the ability to motivate, (b) a child centered orientation focusing on creativity and letting children make choices, and (c) curriculum approaches that allow many experiences and academic objectives related to the child's interests.

Other personal qualities of teachers have been investigated with teacher effectiveness. Oyemade and Chargois (1977) found teacher's "emotional warmth" and intensity of emotional involvement positively related to cognitive performance of children, whereas teacher's self-centeredness, rigidity, anxiousness, and domination negatively correlated with academic performance and development of social skills. Rosen (1968, 1972) found that college students who worked best with preschool children, as rated by their supervisors, described their childhood with joy and security, and had vivid and spontaneous recall of early experiences. McCaulley and Natter (1980), and Kiersey and Bates (1978) found the majority of college students majoring in early childhood education to be people who were

oriented more to the outer world of people
and things than to the inner world of ideas,
who would rather work with known facts and
rely on experience than look for
possibilities and meanings, who base

judgements more on personal values than on impersonal logic, who have a keen interest in and sensitivity toward interpersonal relationships and who like a planned and orderly way of life. (p. 49)

Unlike the majority of students educated in early childhood education, those that are more creative, flexible, and interested in ideas and possibilities, who would probably meet the needs of young children better, usually go into teacher training and research positions. Harvey (1966) found teachers high on abstractness, compared to concreteness, had more desirable atmospheres in their classrooms. Highly abstract teachers were also

more flexible; more encouraging of individual responsibility , expression of feelings and creativity; more innovative in finding possible uses for teaching and play material; less structured in determining rules and procedures; and less punitive. (p. 49)

Training and Experience. Early studies by Railsback (1965), Coleman (1966), and Karnes (1970) concluded that teacher education, experience, and training result in no achievement differences of young children. Later studies confirmed the effects of teacher education and experience on the development of young children. Seefeldt (1973) found years of prior teaching experience and years of formal education of Headstart teachers significantly and positively related to children's gains on the Caldwell Preschool Inventory. Meissner's

(1973) review of research depicts teacher education and years of experience as positively correlated with linguistic and other achievement gains in children. Ruopp, Travers, Glantz, and Coelen (1979) found that children in the classrooms of teachers who were educated or trained in child-related fields had higher gains on the Preschool Inventory and the Peabody Picture Vocabulary Test. Lead teachers with specialized education or training also engaged in more social interaction with the children, and the children were more cooperative, compliant, and involved in the activities. Inconsistent results were found across data sets for amount of experience as a day care teacher and caregiver behavior, child behavior, and test scores. However, Oyemade and Changois (1977) found trained kindergarten teachers having more contacts of an encouraging and rewarding nature than untrained teachers. Thus, teacher education and experience seem to be positively correlated with cognitive and linguistic gains in children.

Some researchers have identified growth patterns of teachers in relation to the amount of work experience with children. King and VanderVen (1980) characterized the beginning teacher as having (a) an identification with childhood as a life stage, (b) undifferentiated love for children, (c) the rescue fantasy, (d) the need to be loved by children, (e) counter identification with adults and the system, and (f) affection orientation.

Teacher growth patterns have also been outlined in terms of career development. Lortie (1975) identified three stages of teachers' careers: (a) struggle to survive the daily demands of the job, (b)

period of experimentation in which teachers are innovative and full of creative energy, and (c) stable period of routine practices and resistance to change. Ross (1983) offered recommendations to help child care staff as they develop. Initially workers should be provided training and emotional support (1-6 months), then training (6-11 months), and finally advancement (12+ months).

APPENDIX B
REFERENCES

APPENDIX B. REFERENCES

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APPENDIX C

LETTERS

APPENDIX C. LETTERS

VIRGINIA TECH

Department of Family
and Child Development

Wallace Annex
Blacksburg, Virginia 24061 - 8299
(703) 961-4794 or 4795

Dear Director,

Working in a child care center offers many challenges and requires many skills. This can be enjoyable or it can lead to teacher burnout. The Child Care Project at Virginia Tech is interested in learning more about this. However, we need your help.

Your center has been randomly selected from the list of Licensed Child Care Centers in Virginia to participate in a project designed to understand the challenges and skills involved in working with young children. For a caregiver in your center to qualify, they must work in a classroom of 4-year-olds, be employed fulltime (30 or more hours a week), and be female. If more than one caregiver qualifies, please randomly select one by writing their names on separate pieces of paper and then blindly selecting one teacher. If no fulltime caregiver qualifies, please give the questionnaire to a part-time caregiver.

Once the caregiver is selected, please distribute at the end of the working day the enclosed envelope which contains a questionnaire. It should take only a few minutes to complete. Please note the specified day the envelope is to be distributed.

Your participation in this project is voluntary. All responses on the questionnaire will be kept confidential. No names or other identifying information is requested. A summary of the results will be made available to you upon your request.

If you have any questions, please call me at (703) 951-3776 or call Cosby Rogers at (703) 961-4793.

Thank you for the generous gift of your time. Your assistance is the key to the success of this project.

Sincerely,

Arlene Kasper,
Project Coordinator

Cosby Rogers,
Project Director

Virginia Polytechnic Institute and State University

VIRGINIA TECH

Department of Family
and Child Development

Wallace Annex
Blacksburg, Virginia 24061-8299
(703) 961-4794 or 4795

Dear Director:

HELP! Recently, we sent to your center a survey about working with children. This project is for Arlene's master's thesis. As yet, we haven't received your form and Arlene is hoping to graduate in June. Perhaps you missed the date that was assigned to your school or perhaps there was another reason. We're CHANGING the rules so that surveys can be filled out as soon as possible.

ARE YOU WILLING TO HELP? If so, please give the enclosed form to a randomly selected full-time, 4-year-old teacher (pick out of a hat if there is more than one teacher that qualifies). Please do it TODAY at the end of her teaching day. Also, please give it to a part-time teacher if there is no full-time one.

Of course, your cooperation is VOLUNTARY. If you do not wish to be in the project, please check a space below and return the forms blank. That way we'll know not to send a third letter.

Your assistance is appreciated. Thank you.

Sincerely yours,

Cosby S. Rogers

Arlene D. Kasper

 I do not wish for my center to be in the survey.

There are no full-time teachers at this center who work in a room in which most of the children are four-year-olds.

Virginia Polytechnic Institute and State University

VIRGINIA TECH

Department of Family
and Child Development

Wallace Annex
Blacksburg, Virginia 24061-8299
(703) 961-4794 or 4795

Dear Caregiver,

There are many skills and challenges involved in working with young children. You, as a caregiver, can help us understand them better. Are you willing to share your insights with us? If so, would you please take a few minutes, relax, and have a cup of tea while you complete a questionnaire. We'll provide the tea.

Upon completing the questionnaire, please return it in the stamped, self-addressed envelope. All responses you make on the questionnaire will be kept confidential. A number has been assigned each center so that we can record which questionnaires have been returned. No names or other identifying information is requested. A summary of the results will be made available to you upon your request. Your participation is of course voluntary.

If you have any questions, please write or call Arlene. The telephone number is (703) 951-3776.

Thank you for the generous gift of your time. You are the key to the success of this project.

Sincerely,

Arlene Kasper,
Project Coordinator

Cosby Rogers,
Project Director

Virginia Polytechnic Institute and State University

APPENDIX D
QUESTIONNAIRE

ACTIVITY QUESTIONNAIRE

Please rate the level of professional challenges that you experienced today in regard to the activities listed below. Circle the number that corresponds to the appropriate level. For example, if you experienced a low level of challenges during group time you would circle the number 1.

ex. group time	1	2	3	4	5	6	7	8	9	10
	<u>low</u>									<u>high</u>
group time	1	2	3	4	5	6	7	8	9	10
indoor activity time	1	2	3	4	5	6	7	8	9	10
outdoor play	1	2	3	4	5	6	7	8	9	10
toileting	1	2	3	4	5	6	7	8	9	10
lunch time	1	2	3	4	5	6	7	8	9	10
nap time	1	2	3	4	5	6	7	8	9	10
control of children's behavior	1	2	3	4	5	6	7	8	9	10
nurturance of children	1	2	3	4	5	6	7	8	9	10
staff relations	1	2	3	4	5	6	7	8	9	10
work with parents	1	2	3	4	5	6	7	8	9	10

Please rate the level of skills (capacity or expertise) you had available to meet the challenges during each of the following activities today.

group time	<u>low</u>	2	3	4	5	6	7	8	9	<u>high</u>
	1									10
indoor activity time	1	2	3	4	5	6	7	8	9	10
outdoor play	1	2	3	4	5	6	7	8	9	10
toileting	1	2	3	4	5	6	7	8	9	10
lunch time	1	2	3	4	5	6	7	8	9	10
nap time	1	2	3	4	5	6	7	8	9	10
control of children's behavior	1	2	3	4	5	6	7	8	9	10
nurturance of children	1	2	3	4	5	6	7	8	9	10
staff relations	1	2	3	4	5	6	7	8	9	10
work with parents	1	2	3	4	5	6	7	8	9	10

Please rate how happy or sad you felt during each of the following activities today.

	<u>sad</u>						<u>happy</u>
	1	2	3	4	5	6	7
group time							
indoor activity time	1	2	3	4	5	6	7
outdoor play	1	2	3	4	5	6	7
toileting	1	2	3	4	5	6	7
lunch time	1	2	3	4	5	6	7
nap time	1	2	3	4	5	6	7
control of children's behavior	1	2	3	4	5	6	7
nurturance of children	1	2	3	4	5	6	7
staff relations	1	2	3	4	5	6	7
work with parents	1	2	3	4	5	6	7

Please rate how tense or relaxed you felt during each of the following activities today.

	<u>tense</u>						<u>relaxed</u>
	1	2	3	4	5	6	7
group time							
indoor activity time	1	2	3	4	5	6	7
outdoor play	1	2	3	4	5	6	7
toileting	1	2	3	4	5	6	7
lunch time	1	2	3	4	5	6	7
nap time	1	2	3	4	5	6	7
control of children's behavior	1	2	3	4	5	6	7
nurturance of children	1	2	3	4	5	6	7
staff relations	1	2	3	4	5	6	7
work with parents	1	2	3	4	5	6	7

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