

# Eating Behaviors of Young Children in Childcare Programs



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## INTRODUCTION

Given the epidemic of overweight and obesity among children, helping them to eat better is an important goal. There are few interventions that are effective in dealing with childhood overweight and obesity. Majority of preschool-age children participate in some form of childcare, and eat one or more of their daily meals during that time. Childcare programs are a natural portal for interventions targeted to young children and their families. Many types of interventions related to childcare and childhood obesity have already been instituted at the state, regional and local levels. These are very broad-based public policy initiatives that lack empirical support for their effectiveness. At the local level, workshops, classes, seminars, technical assistance and, most recently, mentoring sessions seek to address childhood obesity.

The primary focus here is on mentoring because it has been demonstrated to be the most effective in producing behavioral change in childcare settings. The use of mentoring in childcare has been documented in the literature for the past 10 to 15 years (Breunig, 1996; Fenichel, 1992). It has been demonstrated to be an effective mode of training (Breunig, 1996). This study in south central Pennsylvania (Fiene, 2002) demonstrated the effectiveness of a mentoring approach with infant/toddler caregivers, which involved 40 caregivers from 20 childcare sites licensed by the Pennsylvania Department of Public Welfare (Southcentral Pennsylvania Infant Child Care Provider Mentoring Study, supported by the Pennsylvania Department of Public Welfare, July 2000 – June 2003). The results reported are from the pre-test and post-test data collection phase of the study, and include descriptive data on individual programs, program directors and caregivers, as well as comparisons among programs.

## METHODS

The study employed a truly randomized design: 20 participating childcare programs were randomly assigned to one of two groups, either the mentoring group or a control group without mentoring. From September to December 2001, staff in the mentoring group received intensive mentoring from a seasoned early childhood professional. That individual had many years of experience in the early childhood field as both a childcare program director and as a teacher. The control group received routine in-service training, which included workshop training that was available in the local community, but they did not receive the mentoring intervention. The control group did subsequently receive the mentoring intervention from March to June 2002. The study sought to determine how the two groups changed from the pre-test data collection period (September 2001 to June 2002), which is when they were essentially equivalent, till after the mentoring period.

To assess changes in the caregivers, the study used four data collection and measurement tools:

- Infant Toddler Environmental Rating Scale (ITERS), a global measure of infant classroom quality
- Arnett Caregiver Observation Scale, a measure that rates the interactions between children and their caregivers
- Knowledge of Infant Development Inventory (KIDI), a measure that gives an indication of the overall knowledge that an individual has of infant development
- Bloom Program Administration Scale, a measure that rates the overall organizational climate of a childcare center

## RESULTS

The similarity of the mentoring and control groups was assessed during the pre-test data collection phase. Two groups showed no statistically significant differences on any of the 4 measures. The programs and caregivers that were measured again at the post-test show a significant difference. The programs that continued with the mentoring project (N=20) showed improvements in the overall quality of care. Four caregivers (10%) dropped out of the project between pre-test and post-test, two were in the mentoring group and two were in the control group. The programs that received the mentoring intervention had as much difficulty retaining staff as did the control group. The only factor that correlated highly with staff retention was the salary of the caregiver (R=.68). There was also a strong relationship between staff salaries and the ITERS score (.77) and Arnett (.45) score:

- The higher the salaries, the higher the rating of overall program quality and child/caregiver interactions.

## RESULTS

Table 1 shows the data by the mentoring group versus the control group and includes the pre-test and post-test along with the change. Overall, the measures did not reach statistical significance in all cases but the results show that many did reach statistical significance in the individual items measured by each tool (see Table 2 and 3). It appears that mentoring has a positive effect for all of the intervention programs, but it worked best in those programs in which the staff was most receptive. Interestingly, the results also show the relationship between the Bloom scale and the ITERS and the Arnett scales. The overall organizational climate of the center appears to have an influence on how a program's quality increases over time. More than 40% of the variance in overall quality of childcare programs was accounted for by how staff felt decisions were made at the center and how closely the center came to the ideal for staff pay and promotion opportunities, relationships with co-workers, agreement among staff on program goals, innovativeness and creative problem solving. The results show how the mentored programs improved from the pre-test to the post-test on several program quality measures. Another interesting result was the strong relationship between organizational climate scores on the Bloom scale and the overall program quality scales on the ITERS and the Arnett. In a statewide study, more than 70% of childcare centers where nutrition-related activities were measured (Fiene, Greenberg, Bergsten, Carl, Fegley, & Gibbons, 2002). The public policy implications of the findings from this randomized clinical trial are significant because they demonstrate that a mentoring intervention can produce positive changes in the quality of childcare programs. The results of this study suggest that the only factor that impacts turnover is the salary of the staff: The higher the salary of staff, the lower the turnover rate.

- In summary, from a public policy perspective, this research study indicated that the most important factors for improving the overall quality of childcare programs include the following:
- Training that is targeted through a mentoring approach (70 to 85 hours at a minimum over 4 months)
  - An educated program director (with at least a bachelor's degree in early childhood education and state teaching certification)
  - Experienced caregivers (with 5 years or more in the childcare field)
  - Appropriate compensation (i.e., \$20,000 to \$25,000 annually for caregivers/teachers and \$30,000 to \$35,000 for directors)
  - A program director who has an open-minded decision-making process in which she/he is willing to engage teaching staff in all decisions related to professional development

Measure	Pre-test		Post-test		Change	
	Intervention	Control	Intervention	Control	Intervention	Control
ITERS	3.89	4.05	4.74	4.00	+0.85 *	(-0.05)
Arnett	3.33	3.36	3.84	3.50	+.51	+.14
KIDI	70%	70%	90%	70%	+20% *	-0-
Bloom	83	87	94	91	+11	+4.0

\*P<.01

Tools and Areas Measured	Pre-test	Post-test	Significance
<b>ITERS:</b>			
Routines	4.03	5.21	.005
Listening activities	3.77	4.50	.05
Learning activities	4.00	4.71	.05
Interactions	3.89	4.91	.01
Adult needs	4.10	4.70	.05
<b>Arnett:</b>			
Sensitivity	3.33	3.90	.001
Appropriate discipline	3.40	3.70	.05

Tools and Areas Measured	Pre-test	Post-test	Significance
<b>ITERS:</b>			
Routines	4.10	4.20	--
Listening activities	4.01	3.89	--
Learning activities	3.99	4.11	--
Interactions	4.00	3.56	.02
Adult needs	3.90	3.90	--
<b>Arnett:</b>			
Sensitivity	3.46	3.50	--
Appropriate discipline	3.33	3.34	--

## DISCUSSION

A series of studies conducted by Fiene in 2002 demonstrated that traditional workshop training for caregivers is not effective. The issues of staff compensation in the childcare setting must be addressed in public policy. At a state level, there are a number of public policy initiatives that deal with childhood obesity. North Carolina, New York, and Texas have implemented innovative efforts to deal with this issue at a more global level than the mentoring intervention. With mentoring, caregivers are shown that they have a unique opportunity to provide nutrition education to children on a continuing basis. Ideally nutrition and physical activity should be part of the ongoing childcare curriculum.

Nutrition education during the early childhood years is especially important because it is during this period that lifetime eating habits are formed. The quality of nutrition for children 2 to 5 years of age is especially important because it affects their growth and development. Without nutrition education and guidance, they tend to choose foods that are high in sodium, salt, sugar and fat, or those foods that are familiar to them. The goal of nutrition education in childcare is to encourage children to make wise choices about the foods they eat. Caregivers can teach children to recognize the link between nutrition and physical well-being. Children need to be given basic information on the nutrients in foods and their effect on physical growth and development. Recommendations for caregivers on helping children learn to eat healthy foods in a healthy way include the following:

- Serve children age-appropriate amounts and offer seconds only if the child asks for more
- Encourage children to eat slowly
- Serve meals and snacks at specific times and remove food when mealtime is over
- If a child chooses not to eat, then remove the food and tell the child it is time to move on to the next activity
- Eating is a behavior that is strongly influenced by the social environment (i.e., seating a child who refuses to eat corn with other children who enjoys eating corn)
- Caregivers should model what they teach

## CONCLUSION

This study discussed using childcare programs as a portal for interventions to change children's eating behaviors, focusing specifically on mentoring of providers as an intervention model. The mentoring model is an approach that all 50 states can use as all have training systems that are funded through the Federal Child Care Development Fund. Previous research has shown the importance of commitment to professional development and the overall quality of the childcare program (Iutovich, Fiene, Johnson, Koppel, & Langan, 1997). Data from this study supports this initial finding. The findings in this build upon the findings of previous studies and demonstrate the importance of an organizational climate that supports opened and self-sufficiency in decision making (Johnson, 1994).

Mentoring can easily include specific components that deal with children's eating. The predominant training approach in childcare programs remains traditional workshops that have been demonstrated to be ineffective in training interventions. Mentoring does cost more to deliver but the effectiveness of this approach offsets its expense. A mentoring approach that focuses on children's eating behaviors during the hours they spend in childcare can be a very effective intervention strategy for producing positive changes in these specific behaviors.

## References

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