

The Michigan Child Care Expulsion Prevention Program

Change in Child Outcomes After Early Childhood Mental Health Consultation

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INTRODUCTION

Preschoolers are three times as likely to be expelled when compared with students in grades K through 12 (Gilliam, 2005). Explanations for this higher expulsion rate appear to be linked to factors related to the preschool attended, the characteristics of the children in the class, the availability of and access to classroom-based consultation, and the teacher's self-reported stress and depressive symptoms (Gilliam & Shahar, 2006). The need for mental health consultation within preschool settings is essential for the early identification and treatment of children's challenging behaviors.

The Child Care Expulsion Prevention Program (CCEP) was an early childhood mental health consultation program administered by the Michigan Department of Community Health. Consultants in 16 sites serving 31 counties provided services targeting children identified by child care providers as demonstrating challenging behavior. Consultants used a relationship-based approach derived from infant mental health practice in intervening with providers, parents, and children, and were required to achieve endorsements in infant mental health and participate in regular reflective supervision.

QUESTIONS

- Are higher doses of consultation linked to greater improvement in child challenging and positive behaviors compared to lower doses?
- Do children with challenging behavior who receive consultation improve more in challenging and positive behaviors compared to children with challenging behavior who do not receive consultation?

SAMPLE

- CCEP group: 129 children who had parent and provider measures at baseline, end of treatment, and 6-month follow-up. This group did not differ from children without 6-month follow-up data (N = 137) except in having a slightly higher dosage of consultation.
- Comparison group: 59 children identified by providers or parents as having challenging behavior in counties without a consultation program and who had baseline and 6-month parent reports.

Table 1. Sample Characteristics

Characteristics	Mean (SD) or %	
	CCEP sample (N = 129)	Comparison group (N = 59)
Age in months	45.2 (11.0)	41.1 (10.9)
12-35 months	18%	17%
36-59 months	68%	73%
60+ months	14%	10%
Male	75%	63%
Race		
African American	11%	2%
White	79%	85%
Other	10%	13%
Low income*	32%	29%
Provider type		
Child care center	88%	43%
Non-center care (family home, group home, relative care)	12%	57%
Dosage		
Duration (months)	5.0 (2.8)	NA
Consultation with provider (hours)	7.7 (6.7)	NA
Consultation with parents (hours)	4.8 (3.7)	NA

*Low income defined as receiving Department of Human Services child care subsidy or participating in the Family Independence Program at Time 1 or Time 2.

MEASURES

Child Behaviors. Provider report at baseline and end of consultation; parent report at baseline, end of consultation, and 6 months post-consultation.

- Devereaux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999): Behavior Concerns and Total Protective Factors subscales
- Behavior Assessment System for Children, 2nd edition (BASC-2; Kamphaus & Reynolds, 1998): Hyperactivity, Attention Problems, Social Skills, and Functional Communication subscales

Perception of Consultation. Provider and parent report at end of consultation.

- One item about degree to which consultation process was seen as beneficial (1-7 scale).

Dosage. From consultant service logs.

- Hours of face-to-face consultation conducted with (a) providers and (b) parents.

RAW CHANGE OVER TIME

Table 2. Change in Means (SD) CCEP Group—Provider Report

Outcome	Baseline	End of Consultation
Behavior problems		
DECA behavioral concerns	64.6 (7.6)	60.8 (9.1)
BASC-2 hyperactivity	14.9 (6.2)	12.0 (6.3)
BASC-2 attention	11.6 (3.3)	9.9 (4.0)
Positive behaviors		
DECA total protective factors	40.1 (8.7)	45.8 (10.0)
BASC-2 social skills	5.6 (3.6)	7.8 (3.9)
BASC-2 functional communication	10.9 (6.1)	13.5 (5.9)

N = 129. All changes between Time 1 and Time 2 were significant in the expected direction at p < .001.

Table 3. Change in Means (SD) CCEP Group—Parent Report

Outcome	Baseline	End of Consultation	6-Month Follow-Up
Behavior problems			
DECA behavioral concerns	65.2 ^a (8.1)	60.7 ^b (9.7)	60.4 ^b (10.0)
BASC-2 hyperactivity	16.9 ^a (6.0)	13.8 ^b (5.8)	12.9 ^b (5.7)
BASC-2 attention	9.8 ^a (3.2)	8.4 ^b (3.5)	9.5 ^{ab} (3.6)
Positive behaviors			
DECA total protective factors	41.1 ^a (8.6)	47.8 ^b (10.8)	47.7 ^b (10.9)
BASC-2 social skills	14.9 ^a (5.2)	16.8 ^b (5.4)	17.0 ^b (5.4)
BASC-2 functional communication	16.5 ^a (7.3)	19.6 ^b (7.1)	21.5 ^b (6.8)

N = 129. Different superscripts within outcome and reporter indicate significant changes between timepoints (p < .05 to p < .001).

Table 4. Change in Means (SD) Comparison Group—Parent Report

Outcome	Baseline	End of Consultation
Behavior problems		
DECA behavioral concerns	66.5 (6.6)	63.6 (7.5)
BASC-2 hyperactivity	16.3 (5.6)	14.8 (5.6)
BASC-2 attention	8.8 (3.5)	8.3 (3.0)
Positive behaviors		
DECA total protective factors	40.0 (8.5)	44.8 (7.8)
BASC-2 social skills	15.6 (4.3)	16.9 (4.5)
BASC-2 functional communication	16.3 (7.8)	20.8 (5.8)

N = 59. All changes between Time 1 and Time 2 were significant in the expected direction at p < .01 to p < .001 except BASC-2 attention problems.

Before taking dosage of CCEP into account:

- Both CCEP and comparison children showed significant improvements in behavior problems and positive behaviors over the study period.
- For parent report in the CCEP group, attention problems and functional communication continued to improve 6 months after consultation; most others remained level.

QUESTION 1

Are higher doses of consultation linked to greater improvement in child challenging and positive behaviors compared to lower doses?

Table 5. Standardized Betas Predicting Child Outcomes in CCEP Group from Consultation Dosage—Provider Report

Outcome	Provider Report at End of Consultation	
	Consultation with Provider	Consultation with Parent
Behavior problems		
DECA behavioral concerns	-.12	-.03
BASC-2 hyperactivity	-.06	-.07
BASC-2 attention	-.04	-.08
Positive behaviors		
DECA total protective factors	.10	.06
BASC-2 social skills	.16*	.02
BASC-2 functional communication	.14*	.06

N = 129. *p < .10. **p < .05. Multiple regressions controlling for child age, child gender, low-income status, center vs non-center child care, prior dosage, and provider and parent perceptions of the consultation process.

After taking satisfaction with CCEP into account, more hours of consultation with providers (but not parents) predicted increases in provider reports of some positive behaviors.

Table 6. Standardized Betas Predicting Child Outcomes in CCEP Group from Consultation Dosage—Parent Report

Outcome	Parent Report			
	Consultation with Provider		Consultation with Parent	
	End of Consultation	6-Month Follow-Up	End of Consultation	6-Month Follow-Up
Behavior problems				
DECA behavioral concerns	-.13*	.17*	-.05	-.00
BASC-2 hyperactivity	-.08	.09	.05	.02
BASC-2 attention	-.09	-.19*	.06	-.01
Positive behaviors				
DECA total protective factors	.13*	-.06	.03	-.11
BASC-2 social skills	.17*	.05	-.14*	-.12
BASC-2 functional communication	.11*	-.10*	-.03	-.04

*p < .10. **p < .05. Multiple regressions controlling for child age, child gender, low-income status, center vs non-center child care, prior dosage, and provider and parent perceptions of the consultation process.

After taking satisfaction with CCEP into account, more hours of consultation with providers (but not parents) predicted improvements in parents' perceptions of child behavior, especially positive behaviors, by end of consultation.

At 6-month follow-up, more hours of provider consultation was linked to continued improvements in parent-reported attention problems. Gains made in behavioral concerns and functional communication were not sustained.

QUESTION 2

Do children with challenging behavior who receive consultation show more behavior improvement compared to children with challenging behavior who do not receive consultation?

Table 7. Differences Between CCEP and Comparison Groups on Child Outcomes—Parent Report

Outcome	Parent Report				
	CCEP (129)		Comparison (59)		
	Baseline	End of Consultation	Baseline	6 Months Later	Time x Group F
Behavior problems					
DECA behavioral concerns	65.4	60.4	65.8	64.7	5.89*
BASC-2 hyperactivity	17.0	13.5	16.2	15.2	6.54*
BASC-2 attention	9.9	8.2	8.6	8.6	7.10**
Positive behaviors					
DECA total protective factors	40.9	48.1	40.8	44.3	5.00*
BASC-2 social skills	14.6	17.0	16.1	16.6	4.89*
BASC-2 functional communication	16.01	19.5	18.4	20.1	1.24

*p < .05. **p < .01. Two-way repeated measures ANCOVA. Estimated means controlling for child age, child gender, low-income status, and center type. Boldface indicates greater change.

While children in both groups improved over time, probably due to maturation, the CCEP group showed greater improvements in behavior than the comparison group in almost all areas.

CONCLUSIONS

Results suggest that consultation, especially with providers, improves children's behavior problems to a greater extent than simple maturation. By end of consultation, children in the CCEP group showed greater change when providers participated in more hours of consultation and in comparison to children with challenging behaviors who did not receive consultation. Six months after the end of consultation, some, but not all, positive behavior changes were sustained. Attention problems continued to improve while decreases in behavioral concerns and improved communication were not maintained. Unexpectedly, greater number of hours consulting with parents was not predictive of change within our sample. The results suggest that consultation with child care providers is an effective way to decrease child behavior that may lead to expulsion from child care and build positive behaviors in preparation for successful entry into elementary school. Future research is warranted on whom and under what conditions CCEP demonstrates the most robust outcomes.

Interpreting DECA T-Scores

DECA Total Protective Factors

- 40 and below = area of need that should be addressed through an individualized response
- 41-59 = typical
- 60 and above = area of strength

DECA Behavior Problems

- 60 and above = area of concern
- 59 and below = typical

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