J Child Fam Stud (2008) 17:44–54
DOI 10.1007/s10826-007-9140-7

ORIGINAL PAPER

Reducing the Risk for Preschool Expulsion: Mental Health Consultation for Young Children with Challenging Behaviors

Deborah F. Perry · M. Clare Dunne · LaTanya McFadden · Doreen Campbell

Published online: 9 June 2007
© Springer Science+Business Media, LLC 2007

Abstract Increasing numbers of young children are being expelled from child care settings because of their problem behavior. Access to mental health consultation is related to lower rates of expulsion, but additional data are needed to document the pathways through which mental health consultation reduces the risk of expulsion. We report on outcomes from a 4-year project designed to reduce the number of children expelled for problem behavior in a large suburban county in Maryland. Two master's-level professionals provided behavioral consultation to child care providers who identified nearly 200 children at imminent risk for expulsion. Child care providers rated children's social skills and problem behaviors at referral and discharge using the Preschool Kindergarten Behavior Scales and the Brief Infant Toddler Social Emotional Assessment. Statistically significant increases in social skills and reductions in problem behaviors were seen for children who received individualized consultation. More than three-quarters of the children who were at risk for expulsion were able to be maintained in their current child care placement; of those that changed placements, only half (n = 13) were removed involuntarily. These findings provide additional support for mental health consultation as a promising strategy to reduce the risk for expulsion for young children with problem behaviors.

Keywords Preschool · Problem behavior · Mental health consultation

D. F. Perry (✉)
Department of Population, Family and Reproductive Health, Johns Hopkins University Bloomberg School of Public Health, 615 N. Wolfe Street, Baltimore, MD 21205, USA
e-mail: dperry@jhsph.edu

M. C. Dunne
Georgetown University Center for Child and Human Development, Washington, DC, USA

L. McFadden · D. Campbell
Anne Arundel Community College, Child Care Training Institute, Glen Burnie, MD, USA

Introduction

Estimates from a range of studies suggest that between 4 and 12% of young children are manifesting challenging behaviors that may impair their functioning (Center for Mental Health in Schools 2005; Lavigne et al. 1996; Qi and Kaiser 2003). Data from a review of the literature on the prevalence of problem behaviors in low-income preschoolers suggest that they may be at higher risk, with estimates ranging from 7 to 31% for internalizing disorders in Head Start samples and as high as 57% for externalizing problems in community-based samples (Qi and Kaiser 2003). Additional data from the National Child Care study documented a significant relationship between longer hours in care and increased problem behaviors (NICHD 2005). Child care providers continue to list coping with challenging behaviors as their number one need for additional training, technical assistance and support (Center for Evidence-Based Practices 2005). With more young children spending longer hours in out-of-home care, the need for effective strategies to cope with children who are manifesting problem behaviors is increasing.

Two recent studies provide data on what can happen when child care providers are not equipped to cope with the growing demands of young children with challenging behaviors (Gilliam 2005; Gilliam and Shahar, 2006). Gilliam and Shahar (2006) examined expulsion rates and predictors of expulsion from preschool programs in the State of Massachusetts. A random sample of preschool teachers representing a broad array of types of settings including non-profit and for-profit child care centers, Head Start programs, and public and private preschools completed a comprehensive survey. Teachers were asked if they had expelled any children because of behavior problems in the past 12 months; they were also asked about suspension rates. Other questionnaires examined: locus of control for job-related tasks, job stress and demandingness and sources of support, pedagogical beliefs and depressive symptoms.

More than one-third of the teachers reported having expelled at least one preschool child in the past 12 months; Head Start teachers were less likely than for-profit or non-profit child care centers to have expelled at least one child. Job stress and depressive symptoms were both positively associated with likelihood of expulsion, and work satisfaction was negatively related to expulsion. In multiple regression models, job demands and resources mediated the relationship between depressive symptoms and expulsion. There was an interaction between job demands and group size, as well as the proportion of 3-year olds: larger group size and a higher proportion of 3-year olds seem to place greater demands on the preschool teachers; these teachers were more likely to report having expelled a child in the past 12 months.

One of the most surprising findings was that the rate of expulsion from preschool in Massachusetts was more than 34 times the State's rate for expelling school-aged children K-12. The rate for preschool children found in this study was 27.4 per 1,000 whereas the K-12 rate was .8 per 1,000. When these rates are compared nationally, the rate for expelling preschoolers in Massachusetts was more than 13 times the national K-12 rate and roughly 3.5 times the rate in Indiana, which has the highest rate of K-12 expulsions (Gilliam and Shahar, 2006).

The first national data on the rates of expulsion from preschool underscored the widespread nature of this trend: on average, young children were being expelled from state-funded pre-kindergarten programs at three times the rate of their peers in K-12 (Gilliam 2005). Data were collected from the lead teacher in roughly 4,000 classrooms in 40 states across the country. In all but three states, preschool expulsion rates exceeded the K-12 rates; the weighted national average was 6.7 per 1,000 enrolled with a range from zero through 24 per 1,000. Boys were expelled at five times the rate of girls; older children were at higher risk than younger children, as were those served in faith-based programs as compared to public school settings. Access to mental health consultation was found to be associated with lower rates of expulsion. Programs that reported on-site access to a psychologist or social worker expelled 5.7 children per 1,000; occasional access to a mental health consultant was associated with a somewhat higher expulsion rate; and the programs that lacked access to mental health consultation expelled children at the highest rates (10.8 per 1,000).

One strategy to reduce the rates of expulsion from early care and education settings is mental health consultation. Cohen and Kaufmann (2000) define mental health consultation as an ongoing relationship between a mental health professional and an early childhood provider that is designed to build capacity for addressing difficult behaviors and promote healthy social-emotional development. There are two types of models: child/family-focused or program-focused. In the former, the mental health consultant works with the child care provider to address the specific behaviors of concern in an individual child or family; program-focused consultation is intended both to increase the overall quality of the classroom environment, as well as provide strategies to build staff capacity to address problematic behaviors that may be affecting one or more of the children, families or staff.

Brennan et al. (2005a) recently reviewed more than 30 studies that examined the outcomes of mental health consultation provided to child care settings. Very few of these studies have been published in the peer-reviewed literature and the majority was reports of program evaluations, roughly half of which had an external program evaluator. A wide variety of outcomes were measured including: child and family measures (i.e., reductions in problem behaviors, increases in social skills; reductions in parenting stress, respectively); staff and program outcomes (i.e., staff turnover, quality of the early childhood program, expulsion rates). The majority of the studies reviewed reported data for a single program year and few articulated their logic model or theory of change. Many of the papers did not provide sufficient details about the content of the intervention to reliably assess the degree to which these strategies may be effective in reducing problem behavior or expulsions from care. Nonetheless, these authors concluded that there is some evidence that mental health consultation can be an effective strategy to reduce problem behaviors in young children and build staff capacity to address these issues.

The aim of our study was to determine if mental health consultation provided to child care staff could reduce the number of at-risk children who were expelled from their child care programs. Consultation was hypothesized to affect expulsion by reducing the levels of problem behaviors target children were manifesting as well as increasing their prosocial skills.

Method

Subjects

The subjects were young children between the ages of 10 months and 7 years identified as having problem behaviors who were enrolled in licensed child care programs in Anne Arundel County, Maryland. Target children were identified most often by their primary child care provider; some were referred by the parents. Data on 192 children served as of July 1, 2004, were included in these analyses, representing the first 4 years of the program's implementation. Overall, children were referred for services at a mean age of 4.4 years. Over three-quarters (78%) of the children were boys. The majority of the children served were Caucasian (77%), 15% were African American, and 2% were Hispanic; the remainder was another race/ethnicity. Parents were well-educated with an average of 14 years of education for both mothers and fathers. These demographics reflect the overall composition of the county in terms of education level and race. Most children (57%) were living with both of their biological parents, 26% were living with their mother only. Children across the county benefited from these services, living in homes located in 44 different zip codes.

Procedure

The intervention consisted of the delivery of on-site, individualized consultation to child care providers who identified a target child who was manifesting problem behaviors. The consultation model unfolds over the course of 3 months, from intake to discharge (mean number of months 3.3, SD = 2.3). Two master's-level behavior specialists delivered consultation on effective strategies to reduce specific problem behaviors. One specialist had a master's degree in special education while the other had a master's degree in psychology; both had substantial clinical experience with young children. Referrals for services were generally taken from the director of a child care center or the owner of a family child care setting.

At intake, families completed a detailed questionnaire that gathered demographic data as well as information about the child's early development. After parent consent was obtained, primary childcare providers were asked to complete one of two standardized assessments based on the age of the child: for children between the ages of 3 and 6 years, the Preschool and Kindergarten Behavior Scale (PKBS; Merrell, 1995, 2002) was completed; for children ages one through three, the Brief Infant Toddler Social Emotional Assessment was used (Briggs-Gowan and Carter 2002). Both tools assess a range of problem behaviors and social skills. A child care provider completed these tools on two occasions: at intake and after the child was discharged from the intervention.

Once the baseline data were returned, the assigned behavior specialist scheduled a time to observe the child in their child care setting; on average, each child was observed between five and ten times, each lasting between 1.5 and 2 h, depending on the severity of the manifesting behaviors. During these observations, the frequency of target behaviors was noted in 10-min intervals. The activity in progress during each interval was also recorded. This information was used to identify

possible trends that might be influencing the child's behavior. During the observation period, the behavioral specialists offered suggestions for effective strategies to reduce problem behaviors and increase prosocial skills. Frequently, the specialists modeled appropriate interactions and strategies so the staff could see the impact of these suggestions on children's behavior.

At the end of the observation phase, a formal report was written detailing the behavior specialist's impressions of the child and the child care setting and offering behavioral strategies for addressing the specific behavioral issues that each child presented. The report was discussed with staff and parents/guardians and in-depth consultation was provided so that caregivers could execute the suggested protocols. The child was followed closely for approximately a month to gauge the effectiveness of the program and to allow for necessary adjustments to be made. Once this time passed, the primary provider rated the child on the post-intervention PKBS to ascertain changes in the child's behavior. The center was contacted after 3 months to determine the child's current state and the possible need for further intervention. If, after 6 months, the child was still doing well, the center was asked to call if changes occurred and further assistance was needed. A discharge summary was prepared for each child that included data on whether the child had been expelled from child care.

As an adjunct to the individualized interventions with specific children, training was also provided at no or minimal cost to further improve the abilities of child care professionals to cope with antisocial behaviors. Seminars were developed based on the needs of specific programs and were offered on-site at a time most convenient to staff to assure maximum participation. Formal classes addressing a large variety of behavioral issues were also offered through Anne Arundel Community College at a reduced rate of tuition.

Data Analysis

Data were input into an Excel spreadsheet by the behavior specialists in the field and sent to the University-based evaluator for analysis using SPSS 11.5. Univariate analyses including frequencies and means were calculated and then bivariate analyses were performed. For interval level data, correlation coefficients were calculated; cross-tabulations with chi-square tests for statistical significance were also calculated. To explore relationships between variables, some interval data were recoded into binary variables (e.g., maternal education) and new variables were created (e.g., number of presenting problems; types of presenting problems). Logistic regression analyses were conducted to determine predictors of expulsion.

Results

Child Care Experiences

Children entered child care at an average of 21 months; however the range was great. Some children entered care as early as 6-weeks old, while others stayed home

until preschool. Over three-fifths of these children had been in a previous child care placement: 22% had been in one other placement, an additional 22% had been in two prior placements, 16% had been in three prior placements; 16 youngsters had been in four or more placements since entry into child care. Data on the reason for the child's move from prior placements were not collected.

Potential Risk Factors

Nine percent of children referred for mental health consultation were born premature. Parents identified a significant life change (e.g., birth of sibling, divorce) for nearly half of the referred children. Nineteen percent of the children had a diagnosis, including an array of developmental and behavioral concerns. Thirty-two children were identified as having at least one established diagnosis. The most frequently reported diagnoses were: speech language delay (30%), Attention Deficit Hyperactivity Disorder (22%), and sensory impairment (17%). Autism was listed as the primary diagnosis for 6% of the children, and Pervasive Developmental Disorder, Mental Retardation and Bipolar Disorder were reported for an additional 3% of the children.

Presenting Problems

Nearly 60% of the children referred for services through the consultation program were exhibiting aggressive behaviors. Concerns about children's disruptive behavior and attention problems were identified in almost half of the children referred. Hyperactivity was a primary concern for 29% of the children referred for services. Anxiety and depression were far less common concerns, identified in less than 11% of the referred children.

Child Outcomes

Discharge data were available for 150 cases. The remaining 42 cases were either active or data were not available. Of these 150 children, 79% (n = 119) were not removed from their child care placement. Of those who left the child care placement, only 13 were dismissed from their placement; the remaining children were either withdrawn from their placement voluntarily (n = 13) or were moved by their parents on the recommendation of the behavior specialist (n = 2). Children who were withdrawn from their placement voluntarily include those whose families are relocating (Anne Arundel County is home to a large military base). In those cases where the behavior specialist recommended moving the child, most often this was due to poor staff follow-through with implementation of the recommendations by the consultant.

Complete data on children's social skills and problem behaviors at intake and discharge were available only for 64 of the 150 children. These children did not differ from the overall sample in terms of diagnosis, age, presenting problem, or risk factors. Males were slightly over-represented in the subgroup for whom there were post-test data, and African Americans were slightly under-represented in this

subgroup. Children of women with less than high school education were slightly over-represented in the sample for whom post-test data were available as were children who lived with both of their biological parents. A comparison of the demographics of the subgroup for who pre- and post-data on social skills and problem behaviors are available are presented in Table 1.

For this sub-group of preschoolers where post-test data were available on social skills and problem behaviors, statistically significant changes were seen (see Table 2). The mean score on the PKBS social skills subscale increased 25%, from a standardized score of 72 to 90 (n = 57). Likewise, there was a statistically significant decrease in the mean score for problem behaviors at referral. The mean standardized score on the PKBS problem behaviors subscale was 127 and at discharge it was 120 (n = 51). Of the 57 children for whom pre- and post-intervention scores on the PKBS for social skills were available, all but seven demonstrated increases in social skills. For the 51 children with pre and post data on problem behaviors, all but eight had decreases in their levels of problem behavior. Only one child did worse or stayed the same in both social skills and problem behavior. Decreases were observed in the ratings of both internalizing and externalizing problem behaviors. Of 51 with pre- and post-intervention data for internalizing behaviors, 41 (p = .003) showed a decrease, and of 50 with pre- and post- data for externalizing behaviors, 40 (p = .000) showed a post-intervention decrease. A similar pattern was seen in the smaller subgroup of children who were under the age of three. The Brief Infant-Toddler Social Emotional Assessment (BITSEA) scores decreased from 35 to 31 (n = 13; t = 2.09, p = .06).

Table 1 Comparison of Demographic Characteristics between Children with Post-Intervention Behavioral Data (Study Sample) and Total Sample

Demographic characteristic	Study sample (n = 64)	Total sample (n = 192)
Gender*		
Male	91%	71%
Race/ethnicity*		
African American	8%	18%
White	89%	71%
Hispanic		3%
Other	3%	9%
Family Composition*		
Both biological parents	67%	47%
Mom alone	18%	31%
Maternal education greater than high school	25%	14%
Identified problems		
Identified diagnosis	19%	18%
2 or more presenting problems	71%	63%
Aggressive/disruptive or not	72%	71%

Note: * indicate differences are statistically significant at $p < .05$

Table 2 Mean Changes in the Preschool Kindergarten Behavioral Scales (PKBS) Standard Scores Following Mental Health Consultation

PKBS score	M	SD	*t*	*p*
Social skills (n = 57, df = 56)				
Intake	71.89	14.04	−8.82	.000
Discharge	89.68	18.80		
Problem behavior (n = 51, df = 50)				
Intake	127.47	15.44	3.52	.001
Discharge	119.98	16.45		

Characteristics Associated with Children who were Expelled

There were no statistically significant relationships between involuntarily removal and the following characteristics: behavior specialist; child's gender or race; family composition; father's education; whether or not a significant change had occurred in the last year in the child's life; whether or not the child had a known mental health diagnosis; the primary diagnosis, if applicable; whether or not the child was born prematurely; home zip code; and whether or not the child was aggressive/disruptive.

Other bivariate analyses including cross-tabulations with chi-square tests and simple logistic regression were performed to examine associations between categorical variables. There were moderate associations between removal status and primary presenting problem, child care zip code, child's age in years, referral year to the program, and maternal education (recoded as high school graduate or greater than 12 years of education).

Regarding presenting problem, a greater percentage (77%) of the children who were removed involuntarily had more than one presenting problem compared to the children who were not removed involuntarily (65%). In addition, there was a greater likelihood of being expelled with certain presenting problems: specifically, a greater proportion of children who were removed involuntarily exhibited externalizing behaviors, even accounting for the higher rates of these behaviors in the overall sample. Using logistic regression, child's age in years and referral year were found to be associated with a greater likelihood of being expelled. Younger children the program in the first year of implementation were more likely to be expelled (Exp (B) = 2.16, p = .03). Level of maternal education was not found to be statistically related to expulsion using logistic regression; however, when this variable was recoded into a categorical variable reflecting high school graduate versus 13 or greater years of maternal education, a significant relationship was observed. Specifically, all 13 children who were removed involuntarily had mothers who had 12 or fewer years of education (χ^2 = 3.74, p = .05).

Impact on Child Care Providers

Responses from a random selection of child care providers who had made referrals for mental health consultation services (n = 25) revealed that the majority of these

individuals (80%) found the program to be a ''godsend.'' Child care providers found the suggestions of the behavior specialists extremely helpful in building their skills in working with children who were exhibiting problem behaviors. These providers also viewed the specialist as a trusted ally who was able to model appropriate ways of reducing problem behavior and improving prosocial skills. The minority of child care providers who did not find the services helpful, reported that they felt the suggestions offered by the behavior specialists clashed with their program philosophy or approach. Interestingly, the vast majority of this small group were family day care home providers—which suggests that the behavior strategies offered by the consultants may have been a better fit for child care center staff and environments.

Discussion

Outcome data from the first 4 years of this program's implementation demonstrated that the children served by the program are clearly benefiting from mental health consultation services. Most significantly, the majority of children who were at imminent risk for removal from their child care settings were not expelled from these placements. For the sub-group of children for whom complete data were available, nearly all of the children showed significant improvements in their behavior. The behavioral interventions not only reduced rates of problem behaviors but also increased the young children's social skills. On average, a full standard deviation change in social skills was observed in children served by the program, as was a half of a standard deviation reduction in problem behaviors.

Child care providers referred children who were substantially delayed in their social skills and had elevated levels of problem behaviors. The mean score on the PKBS for social skills and problem behaviors at intake were both two full standard deviations different than the population norm ($M = 100$, SD = 15). This underscores the significant challenges these children are presenting with at the time of referral to the program. While these children made significant gains over time—even after this fairly intensive, individualized intervention—these children remain behind their peers in both domains. The intervention appears to have helped these high-risk children close the gap, but many of these children will need more help if they are to succeed in kindergarten.

These findings are limited by a number of weaknesses in the design and implementation of the outcome evaluation and program implementation. To begin with, there is no random assignment to a comparison group. Without a comparison group, there is no way to determine if a similar group of high-risk children might have made comparable gains in social skills and problem behaviors. More importantly, we lack post-intervention data on a substantial portion of the children served by the program. This lack of post-data was particularly pronounced during the first few years of the project's implementation.

While overall this subgroup of children did not differ from the total sample in important ways (e.g., presenting problems, established diagnoses), one difference between the sub-group of children for whom post-intervention data were available

and the total number of children served merit discussion. Specifically, children whose mothers had less than high school education were over-represented in this subgroup, and involuntary removal was negatively related to maternal education. This suggests that our findings might overstate the rates of expulsion for the overall population of children served by the program.

There are also a wide range of variables that were not measured in our study that are important for program designers and policy makers to consider. One of the critical mediating variables in any study of mental health consultation is the overall quality of the child care environment. This includes the willingness of child care providers to make changes in everything from their room arrangement, how they manage transitions, the length of their circle time, and how they interact with children in their classrooms. We did not measure child care quality or teacher behaviors in this study due to cost considerations. Our lack of measurement of changes in teacher-level behaviors limits our ability to delineate the pathways through which mental health consultation leads to changes in child-level outcomes.

Another limitation of our findings is that changes in children's behavior were reported only by the child care provider and not by their parents. In the initial design of the study, data were collected from parents at intake using the Temperament and Atypical Behavior Scales (TABS; Bagnato et al. 1999), which rates behaviors for children ages two through age five. As the program staff struggled to collect post-intervention data from the child care providers—who were the primary target of the intervention—the decision was made to focus limited resources on ensuring that the post-intervention data were collected from the child care providers. Ideally, we would want to know that these behavioral changes were generalized to the children's homes and communities.

Overall, the findings from our study of a dynamic mental health consultation program in Anne Arundel County Maryland suggest that this type of intervention can be an effective strategy for reducing levels of expulsion from child care and problem behaviors. More rigorous studies of these types of initiatives are necessary if we are to understand the impact of these programs on a wide variety of children at risk for expulsion from their early care and education settings.

References

Bagnato, S. J., Neisworth, J. T., Salvia, J. J., & Hunt, F. M. (1999). *Temperament and Atypical Behavior Scale (TABS): Early childhood indicators of developmental dysfunction*. Baltimore, MD: Paul H. Brookes Publishing

Brennan, E. M., Bradley, J. R., Allen, M. D., Perry, D. F., & Tsega, A. (2005a, March). *The evidence base for mental health consultation in early childhood settings: Research synthesis and review*. Paper presented at the Establishing the Evidence Base for Early Childhood Mental Health Consultation, Tampa, FL

Brennan, E. M., Bradley, J. R., Allen, M. D., Perry, D. F., & Tsega, A. (2007). *The evidence base for mental health consultation in early childhood settings: research synthesis addressing staff and program outcomes*. Manuscript submitted for publication

Briggs-Gowan, M. J., & Carter, A. S. (2002). Brief-Infant-Toddler Social and Emotional Assessment (BITSEA): Manual. Version 2.0. New Haven, CT: Yale University Press

Center for Evidence-Based Practices: Young Children with Challenging Behavior. (2005). *Prevention and intervention with young children's challenging behavior: A consensus based summary of current knowledge*. Tampa, FL: University of South Florida

Center for Mental Health in Schools. (2005). *Youngsters' mental health and psychosocial problems: What are the data?* Los Angeles: University of California, Los Angeles

Cohen, E., & Kaufmann, R. (2000). *Early childhood mental health consultation*. Rockville, MD: Center for mental health services of the substance abuse and mental health services administration and the georgetown university child development center

Gilliam, W. S. & Shahar, G. (2006). Pre-kindergarten expulsion and suspension: Rates and predictors in one state. *Infants & Young Children, 19*(3), 228–245

Gilliam, W. S. (2005). Pre-kindergarteners left behind: Expulsion rates in state pre-kindergarten systems. New Haven, CT: Yale University Child Study Center

Lavigne, J. V., Gibbons, R. D., Christoffel, K. K., Arend, R., Rosenbaum, D., & Binns, H. (1996). Prevalence rates and correlates of psychiatric disorders among preschool children. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*, 204–214

Merrell, K. W. (1995). *Preschool and kindergarten behavior scales.* Pro-Ed, Austin, TX

Merrell, K. W. (2002). *Preschool and kindergarten behavior scales* (2nd. Ed.). Pro-Ed, Austin, TX

NICHD Early Child Care Research Network. (2005). Child *care and child development*. New York: Guilford Press

Qi, C., & Kaiser, A. (2003) Behavior problems of preschool children from low-income families: A review of the literature. *Topics in Early Childhood Special Education, 23*, 188–216