

BACKGROUND IN PEDIATRIC SCHOOL PSYCHOLOGY

- With an increasing number of children presenting with health conditions, pediatric care has expanded from solely a medical definition to a more comprehensive service delivery approach that includes psychology and education (Perrin, 1999).
- An interdisciplinary, inter-systemic approach is necessary to meet the needs of children across systems (Power, Shapiro, & DuPaul, 2003).
- School psychologists are uniquely qualified to facilitate collaboration between settings and systems due to their expertise in consultation and intervention.
- Roles in pediatric school psychology include: *advocating* for children's educational and social needs; *consulting* with care providers, families, and educators; and *facilitating collaboration* among these individuals (Power & Parrish, 1995).
- Conjoint behavioral consultation (CBC):
 - A structured, indirect model wherein a consultant works with a parent and teacher to promote collaborative, problem-solving partnerships across home and school (Sheridan, Kratochwill, & Bergan, 1996).
 - Effective in addressing a range of concerns across home and school (Sheridan, et al., 2001); high levels of parent and teacher acceptability and satisfaction reported (Freer & Watson, 1999; Sheridan & Sleck, 1995).
- Other roles: Individualized Education Plan (IEP) consultation, parent- or teacher-only consultation, observations, and provision of resources/referrals.
- To date, no research has explored the conditions in which CBC is warranted in a pediatric medical setting and ones in which other services are appropriate.

RESEARCH QUESTIONS

- What clinical services are pediatric school psychologists providing and for whom are they providing them?
- What types of referral concerns are pediatric school psychologists addressing and which of those are associated with CBC service delivery?
- Under what conditions are CBC services desirable and appropriate in medical settings and when are such services not warranted?

METHODS

Participants:

- 5 school psychology doctoral students who had completed university- and clinic-based practice in pediatric school psychology.
- 53 children (34 males; 19 females) referred by behavioral pediatricians at an outpatient medical setting and their parents and/or teachers who were involved.

Measure:

- The Pediatric School Psychology Referral Form*: Checklist and free response form asking consultants to provide the following information for each referred client:
 - Demographic information (e.g., gender, age, ethnicity, diagnosis)
 - Referral concerns:
 - Medical (e.g., medication side effects, medication type/dose in question)
 - School (e.g., academic, behavior, social problems)
 - Home (e.g., behavior, homework, emotional, social problems)
 - Communication (e.g., divergent parent-school problem perception)
 - Pediatric school psychology services provided:
 - Observation
 - Resources/Referrals
 - IEP Consultation
 - Parent Consultation
 - Teacher Consultation
 - CBC
 - Reasons for selected services:
 - Consultants provided qualitative data regarding the factors influencing the types of pediatric school psychology services selected.

Analysis:

- Research Question 1:** Descriptive statistics
- Research Question 2:**
 - Chi square (χ^2) tests: Computed to measure the unadjusted association between predictor variables (referral concerns) and CBC. Odds ratios identify whether the odds for receiving CBC vary as a function of concern.
 - Logistic regression analysis: Tested the independence of associations using a model that included all predictor variables (referral concerns). Adjusted odds ratios (along with 95% confidence intervals) report the degree to which each referral concern predicted CBC when other concerns were accounted for.
- Research Question 3:**
 - 3-stage coding process derived from Grounded Theory (Strauss & Corbin, 1998)
 - Step 1: Open Coding with Triangulation**
 - 2 coders, blind to the types of services provided, independently identified categories by assessing similarities and differences in responses.
 - Step 2: Axial Coding with Triangulation**
 - Each coder reevaluated the responses and categories and identified any subcategories.
 - Step 3: Selective Coding with Member Checking**
 - 4 consultants reviewed the lists developed by the coders and finalized the categories.
 - 2 coders independently placed each response into the appropriate category.
 - Frequencies for each category were calculated, as were frequencies for CBC and non-CBC cases.

RESULTS & DISCUSSION

Research Question 1:

Client Demographic Information

- 64% male
- 85% Caucasian
- Mean age = 9.9 (SD = 3.1; range = 5-16)

Percentage of Clients with Various Diagnoses

Diagnosis	% of Clients
ADHD	72.0
ODD	14.0
MH	12.0
AUT	28.0
Other	22.0
Comorbid	50.0

Percentage of Cases Involving Each Type of Service

Service	% of Cases
Observation	75.5
Resources/Referrals	18.9
IEP Consult	20.8
Parent Consult	11.3
Teacher Consult	11.3
CBC	28.3

- ADHD was the most frequent diagnosis** for referred clients.
 - This may be representative of a large population of clients with ADHD at the outpatient clinic; alternatively, pediatric school psychologists may be referred clients with ADHD in greater number because symptoms present across settings and may be viewed as responsive to collaborative intervention (e.g., CBC).
- Half of referred clients had comorbid diagnoses**, and it was not uncommon for pediatric school psychologists to be referred clients with low incidence diagnoses.
 - These are clients that comprise a low percentage of the population in schools, but seek services in behavioral pediatric clinics. The high referral rate may indicate the relevance of pediatric school psychology services for these clients.
- School observation was the most frequently delivered service** for referred clients and occurred in the majority of cases.
 - Pediatric school psychologists may use observations to gather critical information that can be used to identify needs and direct service selection.
- CBC was the second most common service**, occurring in over a quarter of cases. This may suggest that CBC is a portable service that is useful and valued in the pediatric setting.

Research Question 2:

Referral Concerns Associated with CBC Service Delivery

Referral Concern	% of Sample	% of CBC Cases with Concern	Unadjusted Odds Ratio ²	Adjusted Odds Ratio ³
School ¹	96.2	100	--	--
Home				
Not Present	48.1	12.5	Referent	Referent
Present	51.9	87.5	12.39***	9.9**
			(2.4 – 63.2)	(1.87 – 52.34)
Communication				
Not Present	55.8	31.3	Referent	Referent
Present	44.2	68.8	4.4*	2.95
			(1.2 – 15.6)	(.72 – 12.16)
Medical				
Not Present	82.7	81.3	Referent	Referent
Present	17.3	18.8	1.15	.862
			(.25 – 5.3)	(.14 – 5.38)

* $p < .05$ ** $p < .01$ *** $p < .001$

¹ The high percentage of cases for which school concerns were prevalent limited the variance related to this factor and its usefulness as a separate variable. Thus, it was dropped from all further χ^2 and logistic regression analyses.

² Unadjusted odds ratio is the relative odds of receiving CBC services when a particular referral concern is present, as compared to when not present, without adjusting for the effect of other concerns. Numbers in parentheses represent confidence intervals. Results were considered significant when $p < .05$.

³ Adjusted odds ratio is the relative odds of receiving CBC services when a particular referral concern is present, as compared to when not present, after the other concerns are accounted for.

- The vast majority of cases were referred due to school concerns followed by home and communication concerns**; A limited number involved medical concerns.
 - These latter concerns may have been more frequently referred due to a perception that they would be more successfully addressed through collaborative efforts.
- After adjusting for the other concerns, the odds are approximately 10 times higher that CBC services were delivered if a home concern was noted than if it was not.** The odds ratio for home concerns and CBC is highly significant, and the significance holds up even when medical and communication concerns are taken into account.
 - Only CBC and parent consultation target concerns at home, making them the most likely options when home concerns were present; however, since most cases involved school concerns, it would be time and resource effective to use a strategy that addresses both home and school concerns at once (e.g., CBC).

- Only the presence of a home concern appears to influence the selection of CBC.** The odds ratio for communication concerns is significant; however, that significance did not hold up when taking into account other concerns. Medical concerns also did not appear to be important in determining CBC services.
 - Communication, school, and medical concerns may not have been key factors in the selection of CBC since they can be addressed via a broader range of services (e.g., IEP consultation, teacher consultation, and observations).

Research Question 3:

Reasons Identified for CBC and non-CBC Service Delivery

Response Categories	Frequency of response for CBC Cases	Frequency of response for non-CBC Cases
Concern is in one environment	1	3
Divergent home and school issues	7	4
Unable to initiate due to logistical concerns (e.g., parental time constraints, distance, end of school year)	0	20
Referred out to other psychological service provider	0	3
Shared concerns and goals across home and school	11	1
Satisfied with current behavior/services	0	7
Parents or physician seeking information and/or support (e.g., regarding child's school behavior or community resources)	17	30
Concerns with home-school connection (e.g. consistency and/or communication across environments)	11	0

- Most frequently reported reasons for use of CBC: (1) Shared concerns and goals for child across home and school, and (2) Concerns with home-school connection.**
 - These categories deal with concerns across home and school and are in line with the CBC goal of addressing connections across environments in which children function.
- Most frequently reported reasons for use of non-CBC services: (1) Logistical concerns, (2) Referred out to another psychological service provider, and (3) Satisfied with current behavior/services.**
 - These may be contraindications for CBC within a medical setting.
 - Logistical problems appear to be the biggest factor in predicting non-CBC services.

LIMITATIONS & FUTURE DIRECTIONS

- External validity is questionable due to the small sample of trainees and clients.
 - Results may be different for pediatric school psychologists who work in other clinics and who did not receive the same training.
 - Future research should investigate how representative the results of this study are for pediatric school psychologists in other settings.
- Effectiveness of services and satisfaction of clients/consultees has yet to be established.
- Future research should explore the extent to which the referred sample of clients is representative of the clinic from which they were referred.
 - Differences between the referred sample and the clinic population could suggest that pediatric school psychologists are viewed as beneficial for one particular subset of the population (e.g., clients diagnosed with ADHD).
- Differences in perceptions of effectiveness and case outcomes should be investigated among different types of service delivery.
- Barriers to implementing CBC should be explored to determine how this practice can be implemented most effectively.