

SPRCC Early Career Scholars Application

Susan Davies Gfroerer, Ed.D., NCSP

Assistant Professor, University of Dayton

Mailing Address: 952 Long Lane; Milford, OH 45150

Email: gfroersd@notes.udayton.edu

Phone: (513)604-4414

Fax: (937) 229-1055

Personal Research Agenda

Overview of Interests: Improving school-based services for students with traumatic brain injuries

The unique educational needs of students with traumatic brain injuries (TBI) are often overlooked, particularly after injured children transition from the hospital back to school. In collaboration with Cincinnati Children's Hospital, I examined the types of support children with TBI needed upon returning to school and the degree of difficulty in obtaining the services (Gfroerer, Wade, & Wu, 2008). The overarching goal of the project was to inform school teams about how they might better meet the needs of head-injured students and to ensure appropriate post-head injury support.

Through collaboration with an urban school district in Ohio, I am examining the efficacy of a "model" program for identifying and meeting the needs of students with traumatic brain injuries. In 2009, we will disseminate this information through statewide and national presentations. Our workshops will address improving school re-entry for students who are transitioning back to school from hospital or rehabilitation; collaborating with parents, specialists, and related service personnel; and interventions for academic and behavioral issues commonly seen in students with TBI.

My interest in improving services for students with traumatic brain injuries also extends to post-secondary institutions. I have submitted an IRB application to explore the needs of students with TBI who are transitioning from high school to college or who obtain head injuries during the post-secondary phase of their education. Benefits and drawbacks of various support services, such as life skills coaches, will be examined. The study will specifically address how such services can best be implemented at the post-secondary level.

In addition to examining systems issues related to services for students with traumatic brain injuries, I am studying the efficacy of specific interventions for individual students with TBI. My

dissertation, which I recently submitted for publication, examined the effects of self-monitoring on students with TBI. The purpose of this study was to examine the effects of a self-monitoring intervention on teachers' direct behavior ratings of students with traumatic brain injury (TBI). A multiple baseline across participants design was used to evaluate the impact of the strategy on direct behavior ratings (DBRs) of classwork and classroom behavior. The self-monitoring strategy included self ratings, matching, and teacher feedback components. A systematic process for fading the matching schedule was attempted for two of three participants. Results indicated that the intervention improved performance and self-monitoring accuracy for all participants. The literature on evidence-based interventions for students with TBI is sparse and I would like to add to it by examining which strategies are most effective for students presenting with specific academic and behavior deficits post-TBI.

Finally, I am part of a statewide traumatic brain injury committee which is comprised of researchers, neuropsychologists, educators, and individuals from the Brain Injury Association of Ohio. Our mission is to improve the identification process and service delivery for Ohio students with TBI. As part of this effort, I am undertaking a project to assess the levels of knowledge and skills in teachers and school psychologists in Ohio. There are four "arms" to the project: one focusing on practicing teachers, one on school psychologists, one on teacher training programs, and one on school psychology training programs. The committee would like to develop specific education modules for trainees and practitioners in Ohio. After the modules have been implemented for several years, I will replicate the study to see if such programs are related to improved service delivery.

Reference

Gfroerer, S. D., Wade, S., & Wu, M. (2008). Parent perceptions of school-based services for children with traumatic brain injuries. *Brain Injury, 22*, 649-656.

Research Proposal

Abstract

The unique educational needs of students with traumatic brain injuries (TBI) are often overlooked when they return to school post-injury. Educators lack adequate training and experience in recognizing the signs of brain injuries and are ill-prepared to provide appropriate support and intervention immediately upon an injured child's return to school. The proposed research project will assess the current knowledge and skills of teachers and school psychologists in terms of identifying and meeting academic, behavioral, and socio-emotional needs of children who have sustained TBIs. Educational modules will be provided to teachers, school psychologists, and trainees in both types of programs. Follow-up studies will examine the degree to which knowledge and skills provided in the training modules are applied in school settings.

Research Proposal

The Problem:

Despite research supporting specialized service delivery for students with traumatic brain injury (TBI), relatively few students with head injuries are identified under the TBI label. Data from 2007 indicate that only 23,805 students received special education services under the TBI category (IDEA, 2007) although actual incidence rates are likely much higher. In fact, Glang, Tyler, Pearson, Todis, and Morvant (2004) estimate that more than 130,000 children with TBI have functional limitations that are significant enough to warrant special education services.

Because of advancements in medical technology, many children with severe brain injuries now survive and these survivors often experience substantial neurobehavioral morbidity (Yeates, 2000). Brain injuries, especially severe ones, can produce deficits in alertness and orientation; intellectual functioning; language skills; nonverbal skills; attention and memory; corticospinal and motor skills; academic functioning; executive functions; and adaptive functioning and behavioral adjustment (Yeates, 2000). Thus, trauma survival requires the development of programs and interventions to meet long-term needs of these individuals (Fletcher-Janzen & Kade, 1997).

Failure to understand the unique needs of students the brain injuries may reduce the likelihood of their educational needs being met. When children who have sustained brain injuries return to school, their teachers may not be aware of the child's injuries and subsequent educational needs, particularly if there is a lack of communication between hospital/rehabilitation, parents, and school. Glang and colleagues (2004) surveyed parents whose children have sustained a TBI and found that lack of school staff knowledge of TBI and its effects was the primary reason for dissatisfaction with their children's instructional services.

In order to improve the identification of and service delivery for students with traumatic brain injuries (TBI), teacher and school psychologist knowledge and skills regarding students with

traumatic brain injury (TBI) will be evaluated. The extent and types of training provided to undergraduate education majors and school psychology graduate students will also be assessed. Online education modules will then be developed and implemented for practicing school psychologists and teachers. The modules will also be provided to school psychology and teacher training programs to ensure that the dissemination of information about TBI sustains over time.

Notable school improvements require a thoughtfully conceived, well-designed, and well-supported professional development component (Guskey, 2000). This study will examine the impact of a targeted professional development experience by assessing the levels of use of teachers and school psychologists who received the training. The evaluation will be re-administered at one and five years post-training to determine the extent to which participants continue applying the knowledge and skills. I plan to first undertake this project in Ohio as a pilot for a similar project at the national level. The national initiative is my proposed collaborative, multi-site research program.

Research questions:

1. What do practicing teachers and school psychologists *know* about traumatic brain injury?
2. What do practicing teachers and school psychologists *do* in terms of assessment and intervention to meet the need the needs of students with TBI (or suspected TBI)?
3. How do school psychology training programs and teacher training programs address TBI? (e.g., amount and type of course content)
4. To what extent do educators *apply* knowledge and skills targeted in the online training?

Context and Participants:

A survey will be distributed to a national sample of school psychologists ($N=400$), teachers ($N=400$), and trainers of school psychologists ($N=200$) and teachers ($N=200$). A random sample of participants will then complete an online training module. Follow-up surveys (one month, one year, and five years post-training) will be administered to all of the individuals who completed the initial

survey to evaluate whether those who experienced the training modules have significantly higher levels of knowledge and skills related to serving students with traumatic brain injury in comparison to individuals who did not complete the training module.

Budget Estimate:

Hourly rates for graduate student research assistants to assist with recruitment and project coordination: 600 hours @ \$10/hour	6000
Supplies (postage and photocopies)	1000
Travel for multi-site coordination meetings:	3000
Gift certificates for participants (1200 @ \$5)	6000
Online survey design and implementation	1000
Online training module creation	2000
	19000

Advantages and Challenges:

The primary advantage of conducting this study in a multisite, collaborative format is that we would be able to reach a larger population of teachers, school psychologists, and training programs. This would enhance the power of the study, improve chances of publication, and thus increase the number of educators to whom the results are disseminated. The research project meets my primary criteria in that it is meaningful, applied research that can help increase student success and emotional well-being. The challenges involve the logistics of coordinating such an effort and maintaining connections over time for the longitudinal component. An additional challenge is also an advantage: I do not currently have sufficient skills to develop a quality video training module. My hope is that a collaborator might help with this technological aspect of the study.

References

- Fletcher-Janzen, E., & Kade, H.D. (1997). Pediatric brain injury rehabilitation in a neurodevelopmental milieu. In C.R. Reynolds & E. Fletcher-Janzen (Eds.), *Handbook of child clinical neuropsychology* (2nd ed., pp. 452-481). New York, NY: Plenum Press.
- Glang, A., Tyler, J., Pearson, S., Todis, B., & Morvant M. (2004). Improving educational services for students with TBI through statewide consulting teams. *NeuroRehabilitation*, 19, 219-231.
- Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.
- Individuals with Disabilities Education Act Data (2007), Retrieved November 10, 2008 from http://www.ideadata.org/tables28th/ar_2-2.xls/
- Yeates, K.O. (2000). Closed head injury. In K.O Yeates, M.D Ris, & H.G. Taylor (Eds.), *Pediatric Neuropsychology: Research, theory, and practice* (pp. 92-116). New York: The Guilford Press.