THE IMPACT OF FUNCTIONAL ANALYSIS METHODOLOGY ON OUTPATIENT CLINIC SERVICES

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The impact of the article by Iwata, Dorsey, Slifer, Bauman, and Richman (1982) on research in severe behavior disorders has been impressive. Equally impressive, however, but not as fully recognized, has been the impact of this methodology on the routine professional activities of those who employ functional analysis methods in their daily work. As one example of this impact, we describe the evolution of assessment procedures based on "brief functional analysis" methodology in our outpatient clinics. Less apparent have been the collateral effects that occur from using these procedures. Interactions with clients and colleagues have changed in ways that result in increased positive reinforcement. In this article, we briefly discuss the positive impact functional analysis has had on one specific work behavior—outpatient clinic assessment—and describe some of the generalized effects we have experienced in related aspects of our daily professional activities.

DESCRIPTORS: functional analysis, severe behavior disorders, outpatient clinics

Overview: A Brief History at the University of Iowa

We are not sure that it is possible to adequately describe the impact that functional analysis methodology has had on the discipline of applied behavior analysis or even on our work at the University of Iowa. A casual inspection of research on severe behavior disorders in *JABA* provides ample evidence of the overall effects of this methodology on our field. What is not always easy to discern is the significant impact functional analysis has had on the daily work behavior of applied behavior analysts. Our intent in this article is to provide some evidence of that impact as it relates to the outpatient clinic services we provide.

Our history with functional analysis began not with the Iwata et al. (1982) article, as perhaps it should have (we somehow managed to miss it), but with Brian Iwata's visit to our hospital.¹ As

part of his consultation, he described in both informal discussions and at a grand rounds presentation to pediatrics faculty the functional analysis methodology he and his colleagues had developed. Our initial reaction was frankly mixed. Relative to our research and inpatient services, we immediately changed our approaches to incorporate this methodology. However, as we have described previously (Wacker & Steege, 1993; Wacker et al., 1990), the majority of our clinical responsibilities involved outpatient clinics, where we typically had 90 min to evaluate a client. In addition, clients and their families often traveled over 100 miles to the clinics, precluding the possibility of conducting repeated assessments in a timely manner.

Prior to Brian's visit and, thus, prior to our understanding of functional analysis approaches to assessment, we disliked working in the outpatient clinics; as behavior analysts, we wanted to assess behavior directly rather than via interview, checklist, or survey. After Brian's visit, our displeasure increased, because he convinced us that even direct

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¹ Being new to the field and naive in many ways can have

advantages. We called Brian and asked him to spend two grueling days with us to help us provide better services. We offered an honorarium of \$75.00, and it was not until several years later that we realized how gracious he had been to so quickly agree.

observations conducted in a case-study fashion were inadequate; we needed to conduct experimental analyses within single-case designs.

In 1985, we began a 5-year process to incorporate, in some modified form, the functional analysis methodology of Iwata *et al.* (1982) into our outpatient clinic services. Along the way, the research of Carr and Durand (1985), Hayes (1981), and many others shaped this process, but it began in 1984 with Brian's visit and continued as we read and reread Iwata *et al.* (1982).

Initial Applications of Functional Analysis to Outpatient Clinics

Our task was to construct outpatient-clinic assessments that were directly based on the functional analysis methodology of Iwata *et al.* (1982) but that also met practical limitations imposed by 90-min clinical evaluations (the Self-Injurious and Aggressive Behavior Service for individuals with developmental disabilities and the Behavior Management Clinic for children with more common behavior problems). Our criterion for assessment was to demonstrate control over behavior via single-case designs that would permit us to infer the underlying operant function of the target behavior.

Our first successful attempts to meet this criterion occurred about 5 years later and were described in studies by Cooper, Wacker, Sasso, Reimers, and Donn (1990) from the Behavior Management Clinic and by Northup *et al.* (1991) from the Self-Injurious and Aggressive Behavior Service. Cooper *et al.* constructed a two-phase assessment. The first phase evaluated the effects of four different stimulus conditions (variations of academic task demands and parental attention) on the task performance of a child with average intelligence. After the initial assessment, the "best" and "worst" conditions were repeated in a second phase using a different academic task. Northup *et al.* used a different approach, also conducted within a two-phase assessment. The first phase involved evaluating the effects of positive and negative reinforcement on aggressive behavior. This was followed by a second phase in which the maintaining contingency identified in the first phase was provided for an appropriate re-

sponse, for the original aggressive response, and again for the appropriate response to form a mini-reversal design. Both types of assessment involved rapidly changing conditions and focused on changes in behavior across distinct conditions. When a change in behavior was observed, the second phase was conducted to demonstrate partial control via replication. The analysis was conducted within a multielement design; with sessions limited to 5 to 10 min, assessment was easily completed within the 90 min allocated for the evaluation. Thus, replication of effects was possible within these assessment designs, but stability within conditions was, of course, not demonstrated.

Subsequent studies by our research team (e.g., Cooper *et al.*, 1992; Derby *et al.*, 1992; Harding, Wacker, Cooper, Millard, & Jensen-Kovalan, 1994) and others (e.g., Taylor & Romanczyk, 1994) have made further refinements in the assessment and have improved the design used to infer operant function, but the basic method of the assessment has remained intact. An initial assessment phase is conducted to probe the responsiveness of behavior to specific environmental events, and is followed by a mini-reversal or replication phase. Although a great deal of further analysis of these procedures is needed, it seems fair to say that this approach to assessment offers a distinct alternative to the way more traditional outpatient clinic assessments are conducted.

Collateral Effects

Although we are pleased with the initial outcomes of this approach to outpatient clinic assessment, this article is primarily a commentary about the generalized impact of the functional analysis methodology developed by Iwata and his colleagues. We never imagined that graduate students would be so eager for the clinic days to occur each week. Conducting the analyses are enjoyable, because about 50% of the time the client's behavior is responsive to these brief probes (Derby *et al.*, 1992). Observing changes in behavior across assessment conditions gives us more confidence that our treatment recommendations are valid and also

seems to provide confidence to the care providers who observe the assessment process.

The use of functional analysis for a wide array of problems has led to an increased overall acceptance of applied behavior analysis procedures in our hospital setting and has influenced professionals from other disciplines regarding what constitutes best practice for severe behavior disorders. This impact became clear early last year when functional analysis became a designated psychology charge within our hospital; on our billing forms, functional analysis is listed along with other, more traditional assessments.

We frequently encounter staff from other disciplines who want to watch our assessments, or who consult with us regarding how to conduct a functional analysis. We mention these generalized outcomes because our entire working relationship in the hospital has changed. This change began in 1984 when Brian established an operant criterion for our outpatient clinic assessments and gave us a model via the functional analysis methodology.

Numerous other changes have occurred in our daily work behavior but are too extensive to describe. Suffice it to say that virtually every aspect of our clinic days, from preliminary preparation to follow-up services, has changed. In almost every instance, the changes have resulted in a decrease in our avoidance of outpatient clinic responsibilities and, of equal importance, have substantially increased the positive reinforcement we obtain from outpatient contacts.

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