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From the Editor

Pharmacological Treatment

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In this issue of Behavioral Parenting we highlight abstracts of studies that involved behavioral analyses of medication effects. Although a behavioral analysis of medication effects may sound like a contradiction in approaches, we have found that using behavioral methodology is a very appropriate way to evaluate medication effects. For example, the use of single subject designs with repeated measurement allows for an analysis of behavior at baseline and during medication treatment. Therefore, each child serves as his or her own “control.” Claire St. Peter provides a brief review of some studies that integrate behavioral methodology with medication evaluations. The emphasis of the review is on methylphenidate, but the points that she raises are relevant across various medications. Following this review is a list of classic and recent references on medication evaluations.

Also in this issue we provide a listing of new abstracts generally related to the topic of behavioral parenting. These articles were

published in the interim between the last Behavioral Parenting issue (June, 2004) and now. The idea is to provide the reader with an ongoing and updated resource for keeping up with the current literature.

Finally, Kimberly Sloman provides a brief review of the featured article for this issue. The featured article is titled “Parents’ acceptance of behavioral interventions for children with behavior and communication problems.” The article is authored by Boothe and Borrego (2004). The article is especially relevant for practitioners working with parents and children because it raises questions about whether parents will implement procedures. If a behavioral procedure is unacceptable from a parent’s viewpoint, they are unlikely to implement the procedure. If a behavioral procedure is not implemented, then it can do no good. Sloman outlines several contributions and limitations of the study.

Timothy R. Vollmer

Pharmacological Treatment Literature Review

Pharmacological Treatment of Behavior Disorders

Claire St. Peter

The effect of medication on the behavior of children has become a major issue in today's society. The use of prescription medications has become part of mainstream culture, with magazines like *The Ladies Home Journal* and television stations like *A & E* and *The Discovery Channel* frequently running advertisements for children's medications (Nelson, 2002). Additionally, more and more children's prescriptions are being filled for psychotropic medicines, such as stimulants, antidepressants, and anticonvulsants. Results of a national survey showed that the yearly rate of use for psychotropic medications increased from 1.4 medications per 100 children in 1987 to 3.9 per 100 in 1996 (Olfson, Marcus, Weissman, & Jensen, 2002). Because of the growing interest in, and use of, medications, the evaluation of their effects and side-effects on behavior becomes crucial. The remainder of this article will briefly review behaviorally-oriented research on the effects of commonly prescribed medications, with an emphasis on methylphenidate.

Methylphenidate

Methylphenidate (such as Ritalin or Concerta) is the medication most widely studied from a behavioral perspective. Methylphenidate is a mild stimulant most often used to treat attention deficit disorder (ADD). The use of methylphenidate and other similar stimulants increased almost four-fold from 1987 to 1996, with approximately 6.2% of

preteen boys using such a stimulant drug in 1996 (Olfson, Marcus, Weissman, & Jensen, 2002).

Generally, behavioral research on the effects of methylphenidate shows at least modest changes in the participants' behavior following the introduction of the medication (Baxley & Ullmann, 1979; Brown, Jaffe, Silverstein, & Magee, 1991; Buhmester, Whalen, Henker, & MacDonald, 1992; Hinshaw, Henker, Whalen, Erhardt, & Dunnington, Jr., 1989; Northup, Gulley, Edwards, & Fountain, 2001; Pelham, et al., 2002). One such study introduced low (0.3mg/kg) to moderate (0.6mg/kg) doses of methylphenidate to groups of boys diagnosed with attention deficit hyperactivity disorder (ADHD) during a summer program (Hinshaw, et al., 1989). The boys with ADHD were broken into three groups, with each group receiving the low dose, the moderate dose, and a placebo in differing orders. Behavior changes following the introduction of the medication were compared within group, across groups of ADHD boys, and in relation to a control group, which consisted of boys who were not diagnosed with ADHD. Trained observers scored the occurrence of social compliance, prosocial behavior, noncompliance, aggression, social isolation, and dysphoria using a sampling procedure. The results of this study showed that the methylphenidate was effective at decreasing noncompliance and aggression, but had no effect on nonsocial or prosocial behavior. The authors attribute the lack of effects on nonsocial and prosocial behavior to be due to the baseline rate of these responses, which was similar to the rate exhibited by the control group. However, it is also possible that the addition of some form of behavior modification technique could have boosted the rates of desirable behavior.

Many of the studies assessing methylphenidate also assessed the combined influence of methylphenidate with some form of behavior modification program (Christensen, 1975; Gulley, et al., 2003; Johnson, Handen, Lubetsky, & Sacco, 1994; Hupp, Reitman, Northup, O'Callaghan, & LeBlanc, 2002; Hoza, Pelham, Sams, & Carlson, 1992; Northup, et al., 1999; Pelham, Carlson, Sams, & Vallano, 1993; Pelham, Schnedler, Bologna, & Contreras, 1980; Reitman, Hupp, O'Callaghan, Gulley, & Northup, 2001; Shafto & Sulzbacher, 1977; Wolraich, 1978; Wulbert & Dries, 1977). Behavior modification programs generally involve a manipulation of contingencies (e.g., events occurring temporally close to behavior) in an effort to decrease problematic behavior. The general result from this body of research suggests that stimulant medication may be more effective when a behavior modification program is also in place. Northup et al. (1999) evaluated the effects of methylphenidate in conjunction with several commonly-observed classroom contingencies. Four ADHD-diagnosed boys participated in the study. Each boy was exposed to a set of contingencies while on and off methylphenidate and the levels of inappropriate vocalizations, out-of-seat, and off-task behavior were recorded. Both medication status and contingencies were assessed using a multielement design. Possible contingencies were similar to those that may naturally occur in a classroom and included: reprimands following problem behavior, time-out following problem behavior, no interaction (adult is present, but does not attend to the problem behavior), and alone (no adult present). For all four boys, lower levels of problem behavior were observed when taking methylphenidate. However, there was also a clear interaction between the contingencies in place and the effect on the medication. Specifically, disruptive

behavior often occurred at lower levels during the no interaction condition *only* when the boys were taking methylphenidate. These results suggest that methylphenidate may change the effect of features of the environment, such as the presence of a teacher. These results show examples of how behavior modification programs may enhance the effectiveness of medication.

Other Medications

Although substantial research has been conducted on the behavioral effects of methylphenidate, research on behavioral effects of other medications for children is relatively sparse. A limited amount of research has been conducted on the effects of risperidone, an antipsychotic drug frequently prescribed to individuals with developmental disabilities (McAdam, Zarcone, Heilings, Napolitano, & Schroeder, 2002; Zarcone, et al., 2001; et al., 2004). In a series of three studies, Zarcone and colleagues (2001; 2002; 2004) evaluated the effects of risperidone on individuals who had been diagnosed with some form of developmental delay. The results of these studies showed that, for most individuals, risperidone was successful at reducing the level of aberrant behavior. Risperidone also received a positive evaluation from the participants' caregivers. Unfortunately, risperidone has not undergone extensive evaluations in conjunction with common behavior modification programs, so the combined effects of behavioral intervention and medication remain unknown. It is also unknown whether the gains made with risperidone could have been attained less intrusively (i.e., without the use of medication), and with potentially fewer side effects (such as sweating, muscle spasms, blurred speech, etc.), through the use of behaviorally-based treatment procedures alone.

Future directions

Further research needs to be conducted on the behavioral effects of commonly prescribed medications. Current evaluations of these medications generally include only indirect measures of behavioral change, such as checklists or retrospective surveys filled out by the participants' caregivers, or include no data on behavioral change. This is potentially problematic because there is no way to determine if the drug changed the actual level of behavior, or simply the caregiver's perception of the problem. Studies should attempt to examine the effects of medication alone, the effects of a behaviorally-based treatment alone, and the combined effects of medication and behavior modification.

Despite the shortcomings listed above, the literature on the behavioral effects of methylphenidate demonstrates that common behavior analytic methods (such as direct behavioral measurement) can be used to examine the effects of medication. Further research should be targeted at the effects of medications. Additionally, parents should consider including behaviorally-based treatment programs in addition to any medications aimed at behavior change.

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Zarcone, J. R., Lindauer, S. E., Morse, P. S., Crosland, K. A., Valdovinos, M. G., McKerchar, T. L., Reese, R. M., Heilings, J. A., & Schroeder, S. A. (2004). Effects of risperidone on destructive behavior of persons with developmental disabilities: III. Functional analysis. *American Journal on Mental Retardation*, 109, 310-321.

Pharmacological Treatment Abstracts

Pharmacological Treatment: Conceptual and Review Articles

Kollins, S. H. (2004). Methodological issues in the assessment of medication effects in children diagnosed with attention deficit hyperactivity disorder (adhd). *Journal of Behavioral Education*, 13(4), 247-266.

Attention deficit hyperactivity disorder (ADHD) is one of the most commonly diagnosed disorders in school-aged children and is usually treated with stimulant medications, including methylphenidate (MPH; Ritalin®, Ritalin-LA®, Concerta® Metadate®, or Focalin®) and other drug compounds (e.g., Adderall®, Adderall-XR®, or Dexedrine).

Assessment of school behavior and performance is a critical component in determining the safety and efficacy of these medications. This paper reviews methodological issues in assessing drug effects in school settings by considering features of the independent variable (the medication), the dependent variables (the endpoints selected for assessment), and the design (the structure of the assessment). In addition, we consider recent conceptual advances in understanding the behavioral mechanisms of action of drugs used to treat ADHD that may influence the structure and interpretation of medication assessments.

(PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Scott H. Kollins, PhD, Duke Child & Family Study Center, Duke University Medical Center, 718 Rutherford St., Durham, NC, USA, koll00@mc.duke.edu

Pharmacological Treatment: Research Articles

Baxley, G. B., & Ullmann, R. K. (1979). Psychoactive drug effects in a hyperactive child: A case study analysis of behavior change and teacher attention. *Journal of School Psychology*, 17(4), 317-324.

Analyzed the effects of methylphenidate (40 mg daily) on the behavior and teacher interactions of a 9-yr-old hyperactive female. Observations of S's task-related and disruptive behaviors and of interactions between S and her classroom teacher were made when S received the active drug and a placebo. Teacher's ratings of S's classroom behavior and measures of her academic performance were also obtained. Results show that, when S was receiving methylphenidate, she engaged in task-related activities a greater percent of the time, had a higher percent of teacher interactions that were instructional in quality, and received lower behavior ratings by the teacher than when she was receiving a placebo. Results suggest that the use of medication may enable the hyperactive child to profit both behaviorally and academically. (25 ref) (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Gladys B. Baxley, Department of Psychology, Univeristy of Illinois, Urbana-Champaign, IL 61820, US.

Brown, R. T., Jaffe, S. L., Silverstein, J., & Magee, H. (1991). Methylphenidate and hospitalized adolescents with conduct disorder: Dose effects on classroom behavior, academic performance, and impulsivity. *Journal of Youth & Adolescence*, 20(5), 501-518.

Effects of methylphenidate on 22 male hospitalized conduct-disordered adolescents (aged 12 yrs 11 mo to 18 yrs 11 mo) were examined by using teacher ratings of behavior, a measure of classroom learning, and a test of impulsivity. Ss received 3 doses of methylphenidate (10 mg, 15 mg, and 20 mg) and a placebo in a randomly assigned, counterbalanced order. Seven Ss had a comorbid diagnosis of attention deficit hyperactivity disorder. Significant overall medication effects were shown on teacher ratings of conduct and on number of arithmetic questions correctly completed and time spent. Stimulant actions may be effective for some aspects of conduct disorder in the absence of attention deficit hyperactivity disorder, although only for specific measures. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Ronald T. Brown, Emory University School of Medicine, Atlanta, GA, US.

Buhrmester, D., Whalen, C. K., Henker, B., & MacDonald, V. (1992). Prosocial behavior in hyperactive boys: Effects of stimulant medication and comparison with normal boys. *Journal of Abnormal Child Psychology*, 20(1), 103-121.

Observed 19 hyperactive boys (aged 7-12 yrs) as they acted as leaders for unfamiliar children (aged 2-4 yrs) to clarify the effects of stimulant medication on attention-deficit hyperactivity disordered children's prosocial and aversive behaviors toward peers. Ss were observed twice, once on placebo and again on a moderate (0.6 mg/kg) dose of methylphenidate. 13 comparison boys (aged 7-20 yrs) without problems in attention and behavior were also observed in the same leader roles. Hyperactive Ss on placebo were more socially engaged, used more aversive leadership techniques, and were rated as less likable by the younger children in their groups. No differences were found between comparison and unmedicated hyperactive Ss for any aspect of prosocial behavior. Stimulant medication had a general dampening effect on social behavior, significantly reducing social engagement and increasing dysphoria relative to the placebo condition. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Duane Buhrmester, School of Human Development, GR 41, Univeristy of Texas at Dallas, Richardson, TX 75083, US.

Christensen, D. E. (1975). Effects of combining methylphenidate and a classroom token system in modifying hyperactive behavior. *American Journal of Mental Deficiency*, 80(3), 266-276.

Studied the combined effects of methylphenidate (0.3 mg/kg/day) and a token reinforcement program in controlling the classroom behavior of 16 hyperactive, institutionalized retarded 9-15 yr olds. A within-S, placebo-controlled, double-blind design was employed. Results from 13 Ss indicate that the behavior modification procedures in the presence of placebo medication produced significant increases in work-oriented and related decreases in disruptive behaviors. Few effects from the addition of active medication to the treatment program were found on any of the dependent measures (seat activity, teachers' ratings, and academic performance). Findings suggest that behavior modification is a viable alternative to drug therapy for hyperactivity in retarded persons. (36 ref) (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Donald E. Christensen, University of Illinois

Crosland, K. A., Zarccone, J. R., Lindauer, S. E., Valdovinos, M. G., Zarccone, T. J., Hellings, J. A., et al. (2003). Use of functional analysis methodology in the evaluation of medication effects. *Journal of Autism & Developmental Disorders*, 33(3), 271-279.

The atypical antipsychotic medication risperidone was evaluated using a double-blind, placebo-controlled design in the treatment of destructive behavior in two individuals with autism. Premedication functional analyses indicated that destructive behavior was maintained by escape from demands, attention, or access to tangible items. For both individuals, destructive behavior during the demand condition was significantly reduced during the medication phases, whereas destructive behavior continued to occur to obtain tangible items (Reggie) and attention (Sean). In addition, there appeared to be a differential effect of the medication on self-injurious behavior (SIB) versus aggression for Sean. Results of the study demonstrate how functional analysis may provide information on those conditions and behaviors that are most likely to be affected by a specific medication. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Jennifer R. Zarccone, University of Kansas, Schiefelbusch Institute for Life Span Studies, 1000 Sunnyside Avenue, Room 1052, Lawrence, KS 66045, US, jzarcone@ku.edu

Gulley, V., Northup, J., Hupp, S., Spera, S., LeVelle, J., & Ridgway, A. (2003). Sequential evaluation of behavioral treatments and methylphenidate dosage for hyperactivity disorder. *Journal of Applied Behavior Analysis*, 36(3), 375-378.

We used a sequential approach to evaluate the relative and combined effects of different types of behavioral treatments, as well as dosage of methylphenidate (MPH), on the disruptive behavior of 3 students who had been diagnosed with attention deficit hyperactivity disorder. Results showed that individualized behavioral treatments produced decreases in disruptive behavior equivalent to MPH for all 3 participants and demonstrated creases the need to evaluate behavioral treatments and medication dosage on an individual basis. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Gulley, Veronica, 9435 Tasmania Ave., Baton Rouge, LA 70803, US

Hinshaw, S. P., Henker, B., Whalen, C. K., & Erhardt, D. (1989). Aggressive, prosocial, and nonsocial behavior in hyperactive boys: Dose effects of methylphenidate in naturalistic settings. *Journal of Consulting & Clinical Psychology*, 57(5), 636-643.

Given the importance of interpersonal interactions for hyperactive children, we evaluated the impact of methylphenidate on specific categories of social behavior in 25 boys, aged 6-12, with attention deficit-hyperactivity disorder (ADHD). These children participated in a 3-week, double-blind, crossover trial with placebo and low (0.3 mg/kg) and moderate (0.6 mg/kg) dosages of methylphenidate during a naturalistic summer research program. Fifteen comparison boys, without problems in attention and behavior, were also observed. In addition to decreasing noncompliance, methylphenidate reduced a combined category of physical and verbal aggression for the ADHD boys, with a significant linear trend across dosages. The medication decreased aggression to levels comparable with those of the comparison boys. There were no medication effects on the frequency of nonsocial or prosocial behaviors. Results are discussed in light of the need to effect durable change in both the quantity and quality of social behavior for hyperactive children. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Stephen P. Hinshaw, Department of Psychology, Franz Hall, University of California, Los Angeles, CA 90024, US.

Hoza, B., Pelham, W. E., Sams, S. E., & Carlson, C. (1992). An examination of the "dosage" effects of both behavior therapy and methylphenidate on the classroom performance of two adhd children. *Behavior Modification*, 16(2), 164-192.

Within the context of 2 case studies, the effects of 2 doses (.3 and .5 mg/kg b.i.d.) of methylphenidate (MPH) and behavioral interventions were examined. Ss were 2 White males (aged 10 yrs 11 mo and 11 yrs) with attention-deficit hyperactivity disorder (ADHD). A within-Ss design was used to demonstrate the importance of examining different doses of both types of treatments in determining the maximally effective treatment for a given child. One case illustrates the importance of evaluating medication response within the context of differing doses of behavior therapy. The other case demonstrates that difficult-to-manage cases are sometimes

manageable using potent doses of both treatments simultaneously. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Betsy Hoza, University of Pittsburgh Medical Center, Attention Deficit Disorder Program, PA, US.

Hupp, S. D. A., Reitman, D., Northup, J., O'Callaghan, P., & LeBlanc, M. (2002). The effects of delayed rewards, tokens, and stimulant medication on sportsmanlike behavior with adhd-diagnosed children. *Behavior Modification, 26*(2), 148-162.

Five children (aged 4-7 yrs) diagnosed with attention deficit/hyperactivity disorder participated in a summer program designed to evaluate behavioral and pharmacological treatments in a recreational setting. The effect of a contingency for increased sportsmanlike behavior, with and without the use of tokens, was examined during kickball games. The influence of stimulant medication was also examined for 3 of the children. A multiple-baseline, reversal design revealed that a delayed reward condition did not increase sportsmanlike behavior, whereas the addition of tokens (and praise) to the delayed reward increased sportsmanlike behavior for all 5 participants. Stimulant medication appeared to have very little influence on sportsmanlike behavior. Future directions for behavioral social skills interventions using a sports skills model are also discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Stephen D. A. Hupp, Louisiana State University, Baton Rouge, LA, US.

Johnson, C. R., Handen, B. L., Lubetsky, M. J., & Sacco, K. A. (1994). Efficacy of methylphenidate and behavioral intervention on classroom behavior in children with adhd and mental retardation. *Behavior Modification, 18*(4), 470-487.

Used a combination of an alternating treatment and double-blind placebo-controlled drug design to assess the independent and combined effects of 2 behavioral interventions and 2 doses of methylphenidate (MPH) in 3 children (aged 6-7 yrs) with attention deficit hyperactivity disorder (ADHD) and mental retardation (MR). Two of the 3 Ss responded positively to medication as measured by increased on-task behavior. The first behavioral
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intervention, a token economy for on-task behavior, was ineffective for increasing either on-task behavior or work accuracy when combined with placebo. However, improvement in work accuracy was realized with implementation of a 2nd behavioral intervention that specifically targeted accuracy independent of drug conditions. Findings highlight both the positive effects and limitations of the 2 treatment modalities for ADHD. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Cynthia R. Johnson, University of Pittsburgh Medical Center, Western Psychiatric Institute & Clinic, John Merck Multiple Disabilities Program, PA, US.

McAdam, D. B., Zarcone, J. R., Hellings, J., Napolitano, D. A., & Schroeder, S. R. (2002). Effects of risperidone on aberrant behavior in persons with developmental disabilities: Ii. Social validity measures. *American Journal on Mental Retardation, 107*(4), 261-269.

Consumer satisfaction and social validity were measured during a double-blind, placebo-controlled evaluation of the atypical neuroleptic risperidone in treating severe aberrant behavior of persons with developmental disabilities. First, a satisfaction survey was completed after a medication trial by each Ss' caregiver. Results showed that 100% of the caregivers felt that participation was a positive experience for themselves and Ss. Second, 52 community members viewed videotapes of 5 Ss (4 female, 1 male; aged 11, 11, 13, 43, and 52 yrs) during a clinical interview when they were taking either placebo or risperidone. Raters also indicated that when on the medication, Ss displayed fewer aberrant behaviors, were less irritable, in a better mood, and were more responsive to their environment. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Jennifer R. Zarcone, Schiefelbusch Institute for Life Span Studies, University of Kansas, 1052 Dole Center, Lawrence, KS 66045, US, Jzarcone@ku.edu

Northup, J., Fusilier, I., Swanson, V., Huete, J., Bruce, T., Freeland, J., et al. (1999). Further analysis of the separate and interactive effects of methylphenidate and common classroom contingencies. *Journal of Applied Behavior Analysis, 32*(1), 35-50.

Evaluated separate and interactive effects between common classroom contingencies and methylphenidate (MPH) on disruptive and off-task behaviors for 4 male children (aged 7-8 yrs) with a diagnosis of ADHD. Analogue conditions consisting of contingent teacher reprimands, brief time-out, no interaction, and alone were conducted in a multielement design. Medication status (MPH or placebo) was alternated across days in a superordinate multielement design. Results indicate that (1) the behavioral effects of MPH were influenced by one or more of the analogue conditions for each participant, and (2) time-out was associated with zero or near-zero levels of both disruptive and off-task behavior for 3 of the 4 participants during MPH and placebo conditions. Implications for the clinical effectiveness of MPH and possible behavioral mechanisms of action of MPH in applied settings are discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: John Northup, Louisiana State University, Department of Psychology, 236 Audubon Hall, Baton Rouge, LA 70803, US, jnorthu@unixl.sncc.lsu.edu

Northup, J., Gulley, V., Edwards, S., & Fountain, L. (2001). The effects of methylphenidate in the classroom: What dosage, for which children, for what problems? *School Psychology Quarterly*, *16*(3), 303-323.

In this study the authors conducted single-case analyses of the dosage and time-course effects of methylphenidate (MPH; Ritalin) on disruptive classroom behavior, math and reading performance, and social engagement. Clear individual differences were demonstrated (a) across children (aged 7 yrs) with attention deficit hyperactivity disorder (ADHD); (b) across academic, behavioral, and social domains of functioning; (c) for dose-response effects; and (d) in the onset and duration of effects. These results are in contrast to the majority of group studies that suggest a generally positive and linear dose-response effect for MPH across both children and domains of functioning. No particular dose-response relationship between disruptive behavior and academic performance was indicated. However, an increasing dosage of MPH was associated with increasing social withdrawal for 2 of the 3 participants. Implications for school-based medication evaluations and for designing optimal comprehensive interventions for children who receive MPH are discussed. (PsycINFO Database University of Florida Behavior Analysis Services Program

Record (c) 2004 APA, all rights reserved) For reprints: John Northup, Louisiana State University, Department of Psychology, 236 Audubon Hall, Baton Rouge, LA 70803, US, jnorthu@unixl.sncc.lsu.edu

Olfson, M., Marcus, S. C., Weissman, M. M., & Jensen, P. S. (2002). National trends in the use of psychotropic medications by children. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*(5), 514-521.

Compared patterns and predictors of psychotropic medication use by children and adolescents in the US in 1987 and 1996. Medication use data were analyzed from 2 nationally representative surveys of the general population focusing on children aged 18 yrs and younger who used 1 or more prescribed psychotropic medication during the survey years. Rates of stimulant, antidepressant, and other psychotropic medication use were obtained. The overall annual rate of psychotropic medication use by children increased from 1.4 per 100 persons in 1987 to 3.9 in 1996. Significant increases were found in the rate of stimulant use (0.6 to 2.4 per 100 persons), antidepressant use (0.3 to 1.0 per 100 persons), other psychotropic medications (0.6 to 1.2 per 100 persons), and coprescription of different classes of psychotropic medications (0.03 to 0.23 per 100 persons), especially antidepressants and stimulants. Rates of antipsychotic and benzodiazepine use remained stable. In 1996, stimulant use was especially common in children aged 6-14 yrs (4.1 per 100), and antidepressant use was common in children aged 15-18 yrs (2.1 per 100 persons). Thus, between 1987 and 1996, there was a marked expansion in use of psychotropic medications by children, especially stimulants and antidepressants. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Dr. Olfson, New York State Psychiatric Institute, Department of Child & Adolescent Psychiatry, 1051 Riverside Drive, New York, NY 10032, US.

Pelham, W. E., Carlson, C. L., Sams, S. E., & Vallano, G. (1993). Separate and combined effects of methylphenidate and behavior modification on boys with attention deficit-hyperactivity disorder in the classroom. *Journal of Consulting & Clinical Psychology*, *61*(3), 506-515.

Evaluated the separate and combined effects of behavior modification and 2 doses of methylphenidate (MPH; 0.3 and 0.6 mg/kg) compared with baseline (no behavior modification and a placebo) on the classroom behavior and academic performance of 31 attention deficit hyperactivity disorder (ADHD) boys attending a summer treatment program. Results revealed significant effects of both interventions, with the mean effect size of medication being more than twice as great as that of behavior modification. Relatively small incremental value was gained by the higher dose of medication or the addition of behavior modification, compared with the effects of the low dose of MPH. In contrast, the addition of either dose of MPH resulted in improvement beyond the effects of behavior modification alone. These group effects reflected those obtained in analyses of individual differences. Furthermore, comparisons of individual responsiveness showed that boys who responded to one treatment also responded to the other. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: William E. Pelham Jr., Western Psychiatric Institute & Clinic, 3811 O'Hara St., Pittsburgh, PA 15213, US.

Pelham, W. E., Hoza, B., Pillow, D. R., Gnagy, E. M., Kipp, H. L., Greiner, A. R., et al. (2002). Effects of methylphenidate and expectancy on children with ADHD: Behavior, academic performance, and attributions in a summer treatment program and regular classroom settings. *Journal of Consulting & Clinical Psychology, 70*(2), 320-335.

Pharmacological and expectancy effects of 0.3 mg/kg methylphenidate on the behavior and attributions of boys with attention-deficit/hyperactivity disorder were evaluated. In a within-subject, balanced-placebo design, 136 boys received 4 medication-expectancy conditions. Attributions for success and failure on a daily report card were gathered. Assessments took place within the setting of a summer treatment program and were repeated in boys' regular classrooms. Expectancy did not affect the boys' behavior; only active medication improved their behavior. Boys attributed their success to their effort and ability and attributed failure to task difficulty and the pill, regardless of medication and expectancy. Results were generally equivalent across the two settings; where there were differences, beneficial effects of University of Florida Behavior Analysis Services Program

medication were more apparent in the school setting. The findings were unaffected by individual difference factors. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: William E. Pelham, State University of New York at Buffalo, Attention Deficit Disorder Program, Diefendorf Hall Room 318, 3435 Main Street, Building 20, Buffalo, NY 14214, US, pelham@acsu.buffalo.edu

Pelham, W. E., Schnedler, R. W., Bologna, N. C., & Contreras, J. A. (1980). Behavioral and stimulant treatment of hyperactive children: A therapy study with methylphenidate probes in a within-subject design. *Journal of Applied Behavior Analysis, 13*(2), 221-236.

Eight 6.5-11.5 yr old hyperactive children received behavioral intervention (BI) from parents and teachers (Ts) for 5 mo. Before BI and after 3 and 13 wks of it, Ss were given placebo or methylphenidate (.25 or .75 mg/kg) during 3-wk probe periods. Classroom observations of on-task B suggest that effectiveness of BI alone was between that of the 2 dosages of medication before BI. Both dosages resulted in higher levels of on-task B when given after 13 wks of BI than when given before BI. T ratings show equivalent effects of BI and the low dosage alone and a stronger effect of the high dosage alone; only the high dose resulted in improved B after 13 wks of BI. Experimentals as a group reached the level of appropriate B shown by nonhyperactive controls only after the high dosage and 13 wks of BI. However, this level was also reached by 2 Ss with the low dose and by 1 S without medication, and was not reached by 1 S. Results suggest that for hyperactive children in school settings, the combination of psychostimulant medication and BI may be more effective in the short term than either treatment alone. (43 ref) (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: William E. Pelham, Department of Psychology, Florida State University, Tallahassee, FL 32306, US.

Rasaratnam, R., Crouch, K., & Regan, A. (2004). Attitude to medication of parents/primary carers of people with intellectual disability. *Journal of Intellectual Disability Research, 48*(8), 754-763.

Objective: To investigate the influence of attitudes of carers of people with intellectual disability (ID) towards giving medication. **Method:** Ninety-three carers of service users who are currently attending outpatients clinic (Harrow Learning Disability service) were interviewed, using the RAMS (Rating of Attitude to Medication Scale) interview schedule. **Results:** A significant association was found between relationship of the carer to the service user and overall positive or negative attitude towards medication, with a disproportionate number of parents expressing a negative attitude in comparison with professional carers (46% vs. 11%). **Conclusion:** This study suggests more work needs to be done with family carers than with professional carers to improve compliance with medication. Stigma is still associated with ID and psychiatric disorders. The family carers responses may be projecting their feelings related to the impact of having a child not only with ID, but also with additional psychiatric problems. The implication of the study for psychiatrists is the identification of a number of areas that could be usefully explored before writing a prescription. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Dr. R. Rasaratnam, Consultant Psychiatrist, Harperbury, Harper Lane, Nr. Radlett, Herts WD7 9HQ, UK, renuga.rasaratnam@hpt.nhs.uk

Reitman, D., Hupp, S. D. A., O'Callaghan, P. M., Gulley, V., & Northup, J. (2001). The influence of a token economy and methylphenidate on attentive and disruptive behavior during sports with adhd-diagnosed children. *Behavior Modification*, 25(2), 305-323.

Three children (aged 4-7 yrs) diagnosed with attention deficit hyperactivity disorder (ADHD) participated in a summer program designed to evaluate the influence of stimulant medication and a token economy on attentive and disruptive behavior during kickball games. Attentive and disruptive behavior were assessed using an interval coding system, and daily ratings on the ADHD Index of the Conners Teacher Rating Scale-Revised were also obtained. A multielement reversal design was used, and the results indicate that both interventions independently improved attentive behavior and decreased disruptive behavior for the Ss. Contrary to other research, when the token economy and medication were compared in isolation, the token system appeared more

effective in reducing disruptive behavior for 2 of the 3 Ss. In addition, the token system generally enhanced the effects of stimulant medication. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: David Reitman, Louisiana State University, Department of Psychology, Baton Rouge, LA 70803, US.

Shafto, F., & Sulzbacher, S. (1977). Comparing treatment tactics with a hyperactive preschool child: Stimulant medication and programmed teacher intervention. *Journal of Applied Behavior Analysis*, 10(1), 13-20.

Two treatment tactics, food and praise contingent on appropriate play and varying doses of methylphenidate (Ritalin), were evaluated for their effects on activity changes in a preschool (4.5 yrs old) boy with severe learning disabilities and behavior problems. In addition, other social, verbal, and academic behaviors were monitored to examine possible side effects of the 2 treatment tactics. Fewer free-play activity changes occurred during contingent reinforcement phases, while medication had variable effects: increasing attention to tasks but, at higher doses, decreasing intelligibility of speech and responsiveness to demands. The study outlines a replicable model for comparing medication with alternative behavioral strategies to control hyperactivity and enhance skill development. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Fay Shafto, Child Development and Mental Retardation Center (WJ-10), University of Washington, Seattle, WA 98195, US.

Wolraich, M. (1978). Effects of methylphenidate alone and in combination with behavior modification procedures on the behavior and academic performance of hyperactive children. *Journal of Abnormal Child Psychology*, 6(1), 149-161.

Studied 20 hyperactive 6-9 yr olds of normal intelligence in a half-day laboratory classroom in a 2-wk period baseline-treatment-reversal design for behavior modification. Under double-blind conditions half the Ss were placed on .3 mg/kg of Ritalin and half on placebo for the entire program. The classroom program consisted of a group period with immediate reinforcement possible, and an individual time period without immediate

reinforcement possible. Behavior modification caused a significant decrease in nonattending, out-of-seat, inappropriate vocalizing and inappropriate peer interaction behavior in the group period. Fidgeting, a nontargeted behavior, was not significantly decreased during this period but did significantly decrease as a result of medication. No other drug effects occurred during this period. During the individual period, the results were essentially reversed. There were no significant behavior modification effects observed. Significant reductions resulted from medication in all behaviors except out-of-seat and fidgeting. Behavior modification alone significantly affected 2 academic measures. (20 ref) (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Dr. Mark Wolraich, University Hospital School, University of Iowa, Iowa City, IA 52242, US.

Wulbert, M., & Dries, R. (1977). The relative efficacy of methylphenidate (ritalin) and behavior-modification techniques in the treatment of a hyperactive child. *Journal of Applied Behavior Analysis, 10*(1), 21-31.

Drug vs placebo effects were contrasted with those of contingency management in the treatment of a hyperactive 3rd grader aged 8 yrs 11 mo. Several criterion behaviors were monitored in 2 different settings to gauge the breadth and generalizability of drug and behavior-management effects. Medication and contingency management effects were both found to be situation specific. No interaction effects were found. Accuracy of task performance, amount of eye contact with the experimenters, frequency of repetitive hand movements, and distractible behavior were apparently unaffected by medication (Ritalin vs placebo) within the clinic. A multiple-baseline design incorporating contingency reversals revealed the reinforcement contingencies to be the crucial variable controlling behavior within the clinic. Medication effects were significant within the home setting where reinforcement contingencies were not changed. While aggressive behavior decreased as a function of Ritalin, repetitive hand movements increased. (21 ref) (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Margaret Wulbert, San Diego Community Health Services, Po Box 3067, San Diego, CA 92103, US.

Zarcone, J. R., Hellings, J. A., Crandall, K., Reese, R. M., Marquis, J., Fleming, K., et al. (2001). Effects of risperidone on aberrant behavior of persons with developmental disabilities: I. A double blind crossover study using multiple measures. *American Journal on Mental Retardation, 106*(6), 525-538.

The efficacy of the atypical antipsychotic risperidone was evaluated in the treatment of aberrant behavior in 20 individuals with developmental disabilities (10 males and 10 females, aged 6-65 yrs). A double-blind, crossover design was used to compare risperidone with placebo in a 22-wk trial with a 6-mo follow-up phase. Based on a 50% reduction in mean Aberrant Behavior Checklist-Community total scores, 50% of the Ss were identified as responders. Naturalistic observations of a subset of 5 individuals showed that for 4 out of 5 Ss, risperidone was effective in reducing aberrant behavior. Side effects included weight gain and sedation. The advantages of conducting a comprehensive analysis of the effects of medication on aberrant behavior are discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Jennifer R. Zarcone, Schiefelbusch Institute for Life Span Studies, 1052 Dole Center, University of Kansas, Lawrence, KS 66045, US, jzarcone@ukans.edu

Zarcone, J. R., Lindauer, S. E., Morse, P. S., Crosland, K. A., Valdovinos, M. G., McKerchar, T. L., et al. (2004). Effects of risperidone on destructive behavior of persons with developmental disabilities: Iii. Functional analysis. *American Journal on Mental Retardation, 109*(4), 310-321.

Functional analyses were conducted during a double-blind, placebo-controlled study of the atypical antipsychotic medication risperidone with 13 individuals. Risperidone was effective in reducing destructive behavior (compared to placebo) for 10 participants. For 7 of these responders, an undifferentiated pattern of responding occurred across their baseline functional analysis conditions (i.e., a similar rate of responding across conditions), and risperidone treatment produced nonspecific reductions of their destructive behavior across functional analysis conditions. For the remaining 3 responders, a differentiated pattern of responding occurred across their baseline functional analysis conditions (i.e., an elevated rate of responding occurred in a specific condition), and risperidone treatment produced function-specific reductions of their

destructive behavior. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Jennifer R. Zarcone, Department of Psychiatry, University of Kansas Medical Center, Mail Stop 4015, 3901 Rainbow Blvd, Kansas City, KS 66160, US, JZarcone2@kumc.edu

Behavioral Parenting Abstracts

Behavioral Parenting Updates: Conceptual and Review Articles

Bielecki, J., & Swender, S. L. (2004). The assessment of social functioning in individuals with mental retardation - a review. *Behavior Modification, 28*(5), 694-708.

Social skills deficits and excesses are a defining aspect of mental retardation (MR). Research indicates that there is an established relationship between social skills and maladaptive behaviors. A number of studies demonstrate that the social competence of individuals with MR and comorbid psychopathology can be enhanced with social skills training. However, to design an effective training package, an accurate assessment of adaptive and social functioning must first be conducted. Unique problems arise when assessing social skills in individuals with severe and profound MR (i.e., individuals often have limited verbal repertoires). Thus, a clinician must often rely on observable behavior and caregiver report rather than self-report. The three most common methods for assessing social skills are behavioral observations, role-playing, and checklists. These assessment strategies will be discussed, as well as suggestions for future research. For reprints: Joanne Bielecki, Louisiana State University, Baton Rouge, LA 70803 US.

Ellis, J., & Magee, S. (2004). Modifications to basic functional analysis procedures in school settings: A selective review. *Behavioral Interventions, 19*(3), 205-228.

This review describes applied behavioral research involving functional analyses conducted in public school settings. Functional analyses in public school settings often require added conditions. The modified conditions described herein include changes to experimental designs, antecedent changes that include task variation, tasks included, idiosyncratic variables, physiological conditions, and modified escape conditions. Finally, consequent modifications cover peer attention, tangibles, varied attention, and altered escape. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Janet Ellis, Department of Behavior Analysis, University of North Texas, P.O. Box 310919, Denton, TX 76203-0919, US, jellis@unt.edu

Hagopian, L. P., Long, E. S., & Rush, K. S. (2004). Preference assessment procedures for individuals with developmental disabilities. *Behavior Modification, 28*(5), 668-677.

Significant advancements have been made in the development of procedures to systematically identify preferred stimuli that may function as reinforcers for persons with developmental disabilities. Indirect assessment procedures include care provider and client interviews, whereas direct assessment procedures involve systematically exposing participants to stimuli while recording their responses. These types of direct assessment procedures can be categorized as either approach-based or engagement-based. Approach-based procedures involve recording the individuals' approach responses to stimuli presented singly or concurrently with other stimuli, whereas engagement-based procedures involve recording duration of engagement with stimuli. Although the predictive validity of indirect preference assessment procedures has yet to be established, using them in combination with direct measures of preference may be most efficacious for identifying potential reinforcers. Recent research on preference assessment procedures used with persons with developmental disabilities is reviewed and the variables that one might consider prior to selecting which procedure to use in a given situation are discussed. For reprints: Louis Hagopian, Johns Hopkins University School of Medicine, Kennedy Krieger Institution, Neurobehavioral Unit, Baltimore, MD 21218 US.

Hastings, R. P., & Beck, A. (2004). Practitioner review: Stress intervention for parents of children with intellectual disabilities. *Journal of Child Psychology & Psychiatry, 45*(8), 1338-1349.

Parents of children with intellectual disabilities are at increased risk for stress and other mental health problems. The purpose of the present review is to consider the evidence base for psychological intervention to remediate stress in these parents. A selective review of interventions designed to reduce stress in parents of children with intellectual disabilities, with a focus on group interventions that incorporate various cognitive behavioural techniques. Research evidence suggests that standard service models (e.g., respite care, case management) probably help to reduce parental stress. The strongest evidence base is for cognitive behavioural group interventions, especially for the reduction of stress in mothers. Some data also indicate the potential value of parent-led support networks. More research and clinical development are needed to establish a firmer evidence base for stress interventions with parents of children with intellectual disabilities. There are also a number of potential practical implications of reducing parental stress for maximising the efficacy of general parent training interventions and also behavioural programmes for children's challenging behaviours. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Richard P. Hastings, Intellectual and Developmental Disabilities Unit, School of Psychology, University of Wales Bangor, Bangor, United Kingdom, LL57 2DG, UK, r.hastings@bangor.ac.uk

Kollins, S. H. (2004). Methodological issues in the assessment of medication effects in children diagnosed with attention deficit hyperactivity disorder (adhd). *Journal of Behavioral Education, 13*(4), 247-266.

Attention deficit hyperactivity disorder (ADHD) is one of the most commonly diagnosed disorders in school-aged children and is usually treated with stimulant medications, including methylphenidate (MPH; Ritalin®, Ritalin-LA®, Concerta® Metadate®, or Focalin®) and other drug compounds (e.g., Adderall®, Adderall-XR®, or Dexedrine). Assessment of school behavior and performance is a critical component in determining the safety and efficacy of these medications. This paper reviews methodological issues in assessing drug effects in school settings by considering features of the

independent variable (the medication), the dependent variables (the endpoints selected for assessment), and the design (the structure of the assessment). In addition, we consider recent conceptual advances in understanding the behavioral mechanisms of action of drugs used to treat ADHD that may influence the structure and interpretation of medication assessments. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Scott H. Kollins, PhD., Duke Child & Family Study Center, Duke University Medical Center, 718 Rutherford St., Durham, NC, US, kolli00@mc.duke.edu

Kuhn, D. E., & Matson, J. L. (2004). Assessment of feeding and mealtime behavior problems in persons with mental retardation. *Behavior Modification, 28*(5), 638-648.

Feeding and mealtime behavior problems are commonly observed among individuals with developmental disabilities. These problems include, but are not limited to, food refusal, food selectivity, mealtime aggression, rumination, pica, and insufficient feeding skills. Difficulties of this type can be associated with life-threatening consequences of other serious health-related problems. Because of the nature of these problems and the lack of accurate client self-reporting, an interdisciplinary assessment in addition to a thorough behavioral assessment is recommended to ensure the best quality of care. This article discusses the role of the various disciplines, and the types of behavioral assessments that are currently being utilized by clinicians and researchers. For reprints: David E. Kuhn, Louisiana State University, Baton Rouge, LA 70803 US.

Paclawskyj, T. R., Kurtz, P. F., & O'Connor, J. T. (2004). Functional assessment of problem behaviors in adults with mental retardation. *Behavior Modification, 28*(5), 649-667.

Functional assessment has significantly improved the success of behavioral treatment of problem behaviors in adults with mental retardation. Functional assessment methods (i.e., techniques that yield a hypothesis of functional relationships) include direct observation, interviews, and checklists. Functional analysis consists of empirical methods that demonstrate behavioral function in controlled settings. Each method has advantages

and limitations that reflect differences in both available resources and individual client characteristics. These methods and issues are reviewed, and future directions for both the research field and the adult population are suggested. For reprints: Theodosia R. Paclawskyj, Johns Hopkins University School of Medicine, Kennedy Krieger Institute, Baltimore, MD 21218 US.

Sherrard, J., Ozanne-Smith, J., & Staines, C. (2004). Prevention of unintentional injury to people with intellectual disability: A review of the evidence. *Journal of Intellectual Disability Research, 48*(7), 639-645.

Recent research evidence shows that people with intellectual disability (ID) have double the unintentional injury risk of the general population and the risk is further increased in the presence of psychopathology and epilepsy. The pattern of injury and the circumstances surrounding an injury event in those with ID have some similarity with that of young children in the general population. Interventions to prevent injuries are an important health priority in this vulnerable population. This paper reviews evidence from injury prevention studies for people with ID and also considers the relevance of general population injury interventions for this population. Information regarding injury prevention in both ID and general populations was identified using online systems and consultation with research and public health organizations. Few published studies were identified addressing the issue of injury prevention for those with ID. Possible injury prevention strategies appropriate for the major causes of injury in the ID population were identified from the general population literature. While many environmental injury prevention strategies for young children in the general population are applicable to the population with ID, some may require design modification to ensure effectiveness. Other promising approaches include improved information for parents/carers, primary care physician counselling, and home visits by well-informed and motivated professionals. There may be injury prevention benefit from improved management of psychopathology and epilepsy. The issue of injury prevention for those with ID has not been addressed to the extent that the magnitude of the problem requires. Injury prevention programmes trialling a variety of evidence-based approaches and strategies are needed to protect the quality of life for the ID population and their families. (PsycINFO Database Record (c) 2004 APA, University of Florida Behavior Analysis Services Program

all rights reserved) For reprints: Dr. Jennifer Sherrard, Accident Research Centre, Monash University, Building 70, Melbourne, Vic 3800, Australia, jenny.sherrard@general.monash.edu.au

Shogren, K. A., Faggella-Luby, M. N., Bae, S. J., & Wehmeyer, M. L. (2004). The effect of choice-making as an intervention for problem behavior: A meta-analysis. *Journal of Positive Behavior Interventions, 6*(4), 228-237.

Supporting people with disabilities in expressing preferences and making choices is a core value in positive behavior support. Indeed, in recent years, the field has increasingly focused its attention on the importance of making choices and the potential benefits of choice-making opportunities in enhancing the quality of life of people with disabilities. In addition, an emerging database is suggesting that providing opportunities to make choices can serve as an intervention for decreasing problem behavior. The authors of this article examine the efficacy of the use of choice-making as an intervention for reducing problem behavior through a meta-analysis of single-subject research studies using choice-making as an intervention. A search of the PsycINFO and ERIC databases yielded 13 studies that met the meta-analysis criteria, with interventions affecting 30 participants. The impact of choice interventions was evaluated using the percentage non-overlapping data and percentage zero data metrics. Overall, providing choice opportunities resulted in clinically significant reductions in the number of occurrences of problem behavior. The authors discuss the benefits of utilizing choice as an intervention and provide future directions for research in this area. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Karrie A. Shogren, University of Kansas, Beach Center on Disability, 1200 Sunnyside Ave., Rm. 3136, Lawrence, KS, US

Wacker, D., Berg, W., Harding, J., & Cooper-Brown, L. (2004). Use of brief experimental analyses in outpatient clinic and home settings. *Journal of Behavioral Education, 13*(4), 213-226.

We describe the historic and current use of brief experimental analysis procedures in outpatient clinic and home settings. We discuss some applications of the designs and suggest design

modifications for improving internal validity. We describe our application of the designs to longitudinal, in-home programs for children with severe behavior disorders and demonstrate how related versions of brief experimental analysis procedures can be linked to form a more comprehensive evaluation. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: David P. Wacker, PhD., Center for Disabilities and Development, 100 Hawkins Drive, Room 251, Iowa City, IA, US, david-wacker@uiowa.edu

Behavioral Parenting Updates: Research Articles

Aniol, K., Mullins, L. L., Page, M. C., Boyd, M. L., & Chaney, J. M. (2004). The relationship between respite care and child abuse potential in parents of children with developmental disabilities: A preliminary report. *Journal of Developmental & Physical Disabilities, 16*(3), 273-285.

This study longitudinally examined the impact of respite care services on child abuse potential and family relations in a sample of parents (N = 14) whose children were admitted for respite care to a center for developmental disability. A sample of parents (N = 18) whose children were admitted for short-term hospitalization (STH) was used as a contrast group. In addition, we examined the interrelationships between child abuse potential, family relations, and parenting stress at 3 time points. Parents completed measures of child abuse potential, family relations, and parenting stress at time of admission, discharge, and at a 2-month follow-up. Results indicated that neither respite care nor STH resulted in significant effects on child abuse potential or family relations although trends were found in the expected direction. Strong interrelationships were found between child abuse potential, family relations, and parenting stress at each of the 3 time points. These preliminary results suggest that respite care may be insufficient to directly impact child abuse potential; however, interventions that target variables related to abuse (e.g., quality of family relations, parenting stress) might be beneficial. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Larry L. Mullins, Department of Psychology, Oklahoma State University, 215 N. Murray, Stillwater, OK 74078, US, lmullin@okstate.edu

Ardoin, S. P., & Martens, B. K. (2004). Training children to make accurate self-evaluations: Effects on behavior and the quality of self-ratings. *Journal of Behavioral Education, 13*(1), 1-23.

Research has shown that self-evaluation can have positive effects on children's behavior and academic performance. Components of self-evaluation that have not been fully examined include the accuracy and sensitivity of students' ratings before and after training, as well as the effects of accuracy training on performance. Four students exhibiting behavior consistent with Attention Deficit Hyperactivity Disorder (ADHD) participated in the study. The students' behavior during academic activities and accuracy of self-evaluations were examined before and after accuracy training in comparison to direct observations of behavior. None of the students accurately rated his behavior prior to training. Self-evaluation alone decreased disruptive behavior for only one student, whereas self-evaluation plus accuracy training decreased the disruptive behavior of all four students. Once accuracy training was withdrawn, the level of disruptive behavior increased for three of the four students. Implications of these results for the quality and utility of self-evaluation measures and the role of accuracy training in self-evaluation effects are discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Scott P. Ardoin, PhD., Department of Psychology, University of South Carolina, Columbia, SC, US, spardoin@sc.edu

Boothe, J. L., & Borrego, J. (2004). Parents' acceptance of behavioral interventions for children with behavior and communication problems. *Child & Family Behavior Therapy, 26*(2), 1-15.

The purpose of the study was to examine what parents find as acceptable treatment options for children with behavior problems in a communication disorders population. Parents' acceptability of seven treatment options, including positive reinforcement, time-out, response cost, spanking, overcorrection, differential attention, and medication were assessed using hypothetical vignettes. Contrary to previous research which has consistently found positive reinforcement to be the most accepted treatment overall, the results indicate that response cost was the most accepted

treatment for this parent population. Additionally, the results indicate that the co-existence of other clinical problems might influence the acceptability ratings of different treatment options. The implications of these findings are discussed and direction for future research is offered. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Jennifer L. Boothe, Department of Psychology, Texas Tech University, P.O. Box 42051, Lubbock, TX, US, Jennifer.Boothe@utt.edu

Borrero, C. S. W., Vollmer, T. R., & Borrero, J. C. (2004). Combining descriptive and functional analysis logic to evaluate idiosyncratic variables maintaining aggression. *Behavioral Interventions*, *19*, 247-262.

For one boy with developmental disabilities, we conducted naturalistic observations and saw that aggression occurred during instructional task presentations. Next, in an experimental analysis, we manipulated the manner in which instructions were presented. Results showed that differentially high rates of aggression were observed when the manner in which instructions were presented was manipulated. Based on the results of the assessment, a successful intervention was developed that incorporated the idiosyncratic finding observed during both the naturalistic observations and the experimental analysis. For reprints: Timothy R. Vollmer, Department of Psychology, University of Florida, Gainesville, FL 32611, US, vollmera@ufl.edu

Bourret, J., Vollmer, T. R., & Rapp, J. T. (2004). Evaluation of a vocal mand assessment and vocal mand training procedures. *Journal of Applied Behavior Analysis*, *37*(2), 129-144.

A common deficiency in the verbal repertoires of individuals with autism and related disorders is the absence of socially appropriate vocal mands. The vocal mand repertoires of these individuals may be lacking in several respects: (a) The individual might engage in no mands whatsoever, (b) the mand might be topographically dissimilar to an appropriate response, (c) the mand might be only partially topographically similar to an appropriate response, and (d) the mand might occur only after prompting. Depending on specific deficiencies in an University of Florida Behavior Analysis Services Program

individual's repertoire, different procedures for establishing appropriate mands may be needed. The purpose of Study 1 was to evaluate an assessment prior to teaching vocal mands for 3 individuals with developmental disabilities. The assessment showed that 1 individual displayed partial utterances of mands, 1 displayed vocal mands after mands had been reinforced, and 1 displayed vocal mands when prompted. Thus, in Study 2, a different teaching strategy was tested for each individual. Results showed that the assessment information could be linked directly to mand training for all 3 participants. (PsycINFO Database Record (c) 2004 APA, all rights reserved) (journal abstract) For reprints: Vollmer, Timothy R., Department of Psychology, University of Florida, Gainesville, FL 32611, US

Conley, C. M., Derby, K. M., Roberts-Gwinn, M., Weber, K. P., & McLaughlin, T. F. (2004). An analysis of initial acquisition and maintenance of sight words following picture matching and copy, cover, and compare teaching methods. *Journal of Applied Behavior Analysis*, *37*(3), 339-350.

This study compared the copy, cover, and compare method to a picture-word matching method for teaching sight word recognition. Participants were 5 kindergarten students with less than preprimer sight word vocabularies who were enrolled in a public school in the Pacific Northwest. A multielement design was used to evaluate the effects of the two interventions. Outcomes suggested that sight words taught using the copy, cover, and compare method resulted in better maintenance of word recognition when compared to the picture-matching intervention. Benefits to students and the practicality of employing the word-level teaching methods are discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) (journal abstract) For reprints: K. Mark Derby, Department of Special Education, Gonzaga University, Spokane, WA 99258, US, mderby@soe.gonzaga.edu

Conyers, C., Miltenberger, R. G., Maki, A., Barenz, R., Jurgens, M., Sailer, A., et al. (2004). A comparison of response cost and differential reinforcement of other behavior to reduce disruptive behavior in a preschool classroom. *Journal of Applied Behavior Analysis*, *37*(3), 411-415.

This study investigated the effectiveness of response cost and differential reinforcement of other behavior (DRO) in reducing the disruptive behaviors of 25 children in a preschool classroom. Using an alternating treatments design, disruptive behavior was reduced when the participants earned tokens for the absence of disruptive behavior (DRO) or lost tokens for the occurrence of disruptive behavior (response cost). Initially, DRO was more successful in reducing the number of disruptive behaviors; however, over time, response cost proved to be more effective. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Raymond G. Miltenberger, Department of Psychology, North Dakota State University, Fargo, ND 58105, US, miltenberger@ndsu.nodak.edu

Fisher, W. W., DeLeon, I. G., Rodriguez-Catter, V., & Keeney, K. M. (2004). Enhancing the effects of extinction on attention-maintained behavior through noncontingent delivery of attention or stimuli identified via a competing stimulus assessment. *Journal of Applied Behavior Analysis*, 37(2), 171-184.

Recent research has shown that the noncontingent delivery of competing stimuli can effectively reduce rates of destructive behavior maintained by social-positive reinforcement, even when the contingency for destructive behavior remains intact. It may be useful, therefore, to have a systematic means for predicting which reinforcers do and do not compete successfully with the reinforcer that is maintaining destructive behavior. In the present study, we conducted a brief competing stimulus assessment in which noncontingent access to a variety of tangible stimuli (one toy per trial) was superimposed on a fixed-ratio 1 schedule of attention for destructive behavior for individuals whose behavior was found to be reinforced by attention during a functional analysis. Tangible stimuli that resulted in the lowest rates of destructive behavior and highest percentages of engagement during the competing stimulus assessment were subsequently used in a noncontingent tangible items plus extinction treatment package and were compared to noncontingent attention plus extinction and extinction alone. Results indicated that both treatments resulted in greater reductions in the target behavior than did extinction alone and suggested that the competing stimulus assessment

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may be helpful in predicting stimuli that can enhance the effects of extinction when noncontingent attention is unavailable. (PsycINFO Database Record (c) 2004 APA, all rights reserved) (journal abstract) For reprints: Wayne W. Fisher, Marcus Behavior Center, 1920 Briarcliff Road, Atlanta, GA 30329, US

Fritz, J. N., DeLeon, I. G., & Lazarchick, W. N. (2004). Separating the influences of escape and access to preferred activities on problem behavior occurring in instructional contexts. *Behavioral Interventions*, 19(3), 159-171.

Two individuals with developmental disabilities were observed to engage in destructive behavior when demands were presented, suggesting that the behaviors were maintained by negative reinforcement. Subsequent analyses revealed that (i) the behavior problems persisted when the participants were asked to cease a high-probability, ongoing activity (walking) while demands were not presented and (ii) problem behaviors ceased when the participants were trained to request access to walking through appropriate means. These findings suggested that the presentation of demands, per se, was not the critical variable in maintaining destructive behavior. Rather, it appeared that restricting the participants from walking, which was only coincidentally necessary in the initiation of demands, set the occasion for the aberrant responses. Subsequent analyses were conducted with one participant to further strengthen this hypothesis. These findings are discussed in terms of the utility of seeking out idiosyncratic and individualized behavioral functions subsequent to initial assessments and their contribution to the growing body of literature regarding the complex interactions of destructive behavior and other naturally occurring high-rate behaviors. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Iser DeLeon, Neurobehavioral Unit, Kennedy Krieger Institute, 707 N. Broadway, Baltimore, MD 21205, US, deleon@kennedykrieger.org

Fyffe, C. E., Kahng, S. W., Fittro, E., & Russell, D. (2004). Functional analysis and treatment of inappropriate sexual behavior. *Journal of Applied Behavior Analysis*, 37(3), 401-404.

The results of a functional analysis showed that inappropriate sexual behaviors exhibited by a 9-year-old boy who had been diagnosed with traumatic brain injury were maintained by positive reinforcement in the form of social attention. An intervention consisting of functional communication training and extinction resulted in reduced levels of inappropriate sexual behaviors. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Sung Woo Kahng, Department of Behavioral Psychology, Kennedy Krieger Institute, 707 N. Broadway, Baltimore, MD 21205, US, Kahng@kennedykrieger.org

Graff, R. B., & Green, G. (2004). Two methods for teaching simple visual discriminations to learners with severe disabilities. *Research in Developmental Disabilities, 25*(3), 295-307.

We used multiple-probe designs to compare two potentially errorless procedures for teaching simple discriminations among three pairs of photos of preferred items (S+) and colored rectangles (S-) to three youths with severe disabilities. In Experiment 1, baseline trials conducted with differential reinforcement yielded near-chance performances on all stimulus sets. A progressive delayed prompt training procedure was then implemented, with stimuli presented flat on the tabletop for one participant and at a 45° angle to the tabletop for the other participants. After 120 teaching trials, accuracy remained near chance. Next, a stimulus control shaping procedure was implemented using an adapted Wisconsin General Test Apparatus (WGTA), with stimuli at a 45° angle to the tabletop. Accuracy increased when this procedure was implemented with each stimulus pair in succession. In Experiment 2, for the participant whose stimuli were presented flat on the tabletop during the progressive delayed prompt training procedure, baseline trials were presented on the WGTA as at the end of Experiment 1, with differential reinforcement; accuracy remained high. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Richard B. Graff, New England Center for Children, Northeastern University, 33 Turnpike Road, Southborough, MA 01772, US, rgraff@necc.org

Grindle, C. F., & Remington, B. (2004). Teaching children with autism using conditioned cue-value and response-marking procedures: A socially valid procedure. *Research in Developmental Disabilities, 25*(5), 413-429.

Five children with autism were taught to match printed words to corresponding pictures. Participants' speed of learning was compared across three training conditions, each involving a 5-s delay of reinforcement, using a within-participants alternating treatments design. In the cue-value condition, a verbal phrase of approval (e.g., "good!") was delivered only after correct responses and again after a 5-s delay when a primary reinforcer was delivered; in the response-marking condition, an attention-eliciting verbal cue (e.g., "look!") was delivered after both correct and incorrect responses, but not prior to the primary reinforcer; in the delay only condition, there were no cues during a 5-s delay. Performance in the no-cue control was inferior to both the cue-value and response-marking conditions, but there was little difference between the latter two conditions. The implications of these results for facilitating learning in applied settings are discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Bob Remington, Centre for Behavioural Research, Analysis, and Intervention in Developmental Disabilities, School of Psychology, University of Southampton, Highfield, Southampton, S017 1BJ, UK, r.e.remington@soton.ac.uk

Grskovic, J. A., Hall, A. M., Montgomery, D. J., Vargas, A. U., Zentall, S. S., & Belfiore, P. J. (2004). Reducing time-out assignments for students with emotional/behavioral disorders in a self-contained classroom. *Journal of Behavioral Education, 13*(1), 25-36.

This study assessed the impact of a class-wide time-out/re-directing strategy on (a) the frequency of teacher-assigned time-outs and (b) the time students spent in disciplinary sanctions. Twelve students with emotional/behavioral disorders, enrolled in a self-contained elementary classroom were taught an alternative time-out strategy (Active Response Beads-Time Out), while teachers were taught a redirecting strategy, in an attempt to decrease the amount of student's time spent in time-out (TO) and the number of TO assigned by staff. Using a multiple baseline design across academic classroom periods, results showed that Active Response Beads Time-Out (ARB- TO) and

teacher re-directions decreased the total time spent in time-out and number of TO assigned across the three class periods. Results maintained at one, two and four week follow-up sessions. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Janice A. Grskovic, School of Education, Indiana University Northwest, 3400 Broadway, Gary, IN, US, jgrskovi@iun.edu

Johnson, J. W., McDonnell, J., Holzwarth, V. N., & Hunter, K. (2004). The efficacy of embedded instruction for students with developmental disabilities enrolled in general education classes. *Journal of Positive Behavior Interventions, 6*(4), 214-227.

A multiple baseline across behaviors design was used to evaluate the efficacy of embedded instruction with 3 students with developmental disabilities who were enrolled in general education classes. Two general education teachers and 1 paraprofessional delivered embedded instruction to students during regularly scheduled instructional activities. The skills taught to students included answering probe questions drawn from the general science curriculum, identifying functional sight-words drawn from the general reading curriculum, and making requests using an electronic communication device. Student data showed that embedded instruction was effective with all 3 students. The results also indicate that both general education teachers and paraprofessionals were able to implement the procedure with a high degree of fidelity without disrupting the ongoing instructional activities of the general education classes. Teacher ratings of the acceptability and perceived effectiveness of the procedures suggested that teachers viewed embedded instruction as a practical, effective, and efficient strategy for teaching students with developmental disabilities in general education settings. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Jesse W. Johnson, East Tennessee State University, Department of Human Development and Learning, Box 70548, Johnson City, TN 37614, US

Jostad, C. M., & Miltenberger, R. G. (2004). Firearm injury prevention skills: Increasing the efficiency of training with peer tutoring. *Child & Family Behavior Therapy, 26*(3), 21-35.

Gun play results in hundreds of childhood injuries and deaths each year in the United States. Behavioral Skills Training (BST) is used to teach children the skills needed to resist gun play when finding a firearm. Although effective, existing BST programs are time and resource intensive and therefore lack the efficiency required to be widely utilized. Consequently, modifications of program design are needed to increase the likelihood that many children will receive training. Training children in groups and using peers as tutors may decrease the time and resources needed to teach these safety skills to youngsters, thus increasing the efficiency and adoptability of BST programs. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Raymond G. Miltenberger, Department of Psychology, North Dakota University, Fargo, ND, US, ray.miltenberger@ndsu.nodak.edu

Kodak, T., Grow, L., & Northup, J. (2004). Functional analysis and treatment of elopement for a child with attention deficit hyperactivity disorder. *Journal of Applied Behavior Analysis, 37*(2), 229-232.

We conducted a functional analysis of elopement in an outdoor setting for a child with a diagnosis of attention deficit hyperactivity disorder. A subsequent treatment consisting of noncontingent attention and time-out was demonstrated to be effective in eliminating elopement. Modifications of functional analysis procedures associated with the occurrence of elopement in a natural setting are demonstrated. (PsycINFO Database Record (c) 2004 APA, all rights reserved) (journal abstract) For reprints: Tiffany Kodak, Department of Psychology, Louisiana State University, Baton Rouge, LA 70803, US, tkodak1@lsu.edu

Lever, N., Sander, M. A., Lombardo, S., Randall, C., Axelrod, J., Rubenstein, M., et al. (2004). A drop-out prevention program for high-risk inner-city youth. *Behavior Modification, 28*(4), 513-527.

Inner-city youth are at high risk for dropping out of high school. Within this article, risk factors associated with dropout and strategies for effective prevention and intervention are reviewed. An example of a school-based drop-out prevention

program is highlighted. The FUTURES Program is a school-based drop-out prevention program designed to address the needs of high-risk youth through smaller classes, character development, career preparation, case management/mentoring, positive incentives, and access to mental health services. Components of the program are described in detail and data evaluating the effectiveness of the program are presented. Directions for the future development of programs and conducting research to prevent dropout by inner-city youth are discussed. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Nancy Lever, University of Maryland School of Medicine, Baltimore, MD.

Lotan, M., Isakov, E., & Merrick, J. (2004). Improving functional skills and physical fitness in children with rett syndrome. *Journal of Intellectual Disability Research, 48(8)*, 730-735.

Background: To investigate the feasibility of a physical exercise programme with treadmill for persons with Rett syndrome (RS) in order to promote fitness and health. Methods: A daily training programme on a treadmill was designed for four females with RS over a period of 2 months with tests performed in three intervals, at time 1, 2 and 3, 2 months apart with intervention taking place between tests 2 and 3. Participants were four girls with RS aged 8.5-11 years (mean: 10 years) attending the educational facility Beit Issie Shapiro, Raanana, Israel, all with independent mobility and with typical characteristics of RS stage III. The training took place at the educational facility, on a 1400 model treadmill (Trimline, capable of very low speeds <math><0.5\text{ k/h}</math>), with very long side rails. Special low side rails were adapted to the treadmill in order to fit the height of the children and velcro straps were added to assist in safely placing the hands. Pulse was monitored constantly during exercise by an A3 polar pulse belt. Pulse measurements at rest during training were considered as evaluators of aerobic physical condition. Functional measurement was based on a scale specially established for the present study. The scale was a 31-item motor-functioning tool that measures the ability of participants to knee walk and knee stand, to get up to a standing position, duration of walking different paths, and to go up and down stairs and slopes. Results: The study showed that physical fitness of the children at the end of the training programme had improved considerably ($P<0.05$). Tests showed that general University of Florida Behavior Analysis Services Program

functional abilities had improved considerably ($P<0.0001$). Although all items of the functional ability measure showed impressive positive change, some of the 31 items on it showed statistically significant improvement (knee walking, going up and down stairs and speed of walking for 25 m. Pearson correlation showed high linkage ($r=-0.76$) between functional improvement and change in physical fitness. Conclusions: Physical fitness programme executed on a daily basis is capable of improving functional ability of children with RS. Nonprofessional personnel can execute such a programme under supervision of a qualified physical therapist. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Joav Merrick, Medical Director, Division for Mental Retardation, PO Box 1260, IL-91012, Jerusalem, Israel, jmerrick@internet-zahav.net

Luiselli, J. K., Ricciardi, J. N., Schmidt, S., & Tarr, M. (2004). Brief functional analysis and intervention evaluation for treatment of saliva-play. *Child & Family Behavior Therapy, 26(3)*, 53-61.

We conducted a brief (8 days) functional analysis to identify sources of control over persistent saliva-play displayed by a 6-year old child with autism in a school setting. The functional analysis suggested that saliva-play was maintained by automatic reinforcement, leading to an intervention evaluation (3 days) that compared two methods of providing alternative sensory consequences. Saliva-play was eliminated when the child had access to an acceptable form of oral stimulation, mouthing a chew object, but was unaffected when he chewed gum. We discussed the merits of brief functional analysis and intervention evaluation in applied settings, and clinical issues influencing the treatment of stereotypic behaviors that are automatically reinforced. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: James K. Luiselli, May Center for Early Childhood Education, 10 Action Street, Arlington, MA, US, jluiselli@mayinstitute.org

MacKenzie, E. P., Fite, P. J., & Bates, J. E. (2004). Predicting outcome in behavioral parent training: Expected and unexpected results. *Child & Family Behavior Therapy, 26(2)*, 37-53.

This study examined the relationships among clinical utility and treatment outcome variables in Behavioral Parent Training (BPT). The sample included 21 mothers with 3-8 year-old children with significant externalizing behavior problems who received treatment for Oppositional Defiant Disorder. The primary aim was to relate two treatment feasibility variables, client resistance and treatment acceptability, to maternal ratings of child improvement. We also examined the relationship between treatment feasibility variables and parent and family risk factors that appear to mitigate the effectiveness of BPT such as low SES, single-parent status, and maternal depression. Outside observers coded videotapes for maternal resistance exhibited in treatment sessions during which discipline techniques were discussed. Results of correlation analyses revealed the following pattern of significant findings: (1) a positive relationship between treatment acceptability and child improvement, (2) a negative relationship between maternal resistance and the risk factors, low SES and single-parent status, and (3) a negative association between SES and child improvement. The first finding was expected, but the latter two were not. The pattern of findings raises intriguing issues for further study. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Elizabeth P. MacKenzie, University of Washington, Social Development Research Group, 9725 3rd Ave. NE, Ste 401, Seattle, WA 98115, US, emackenz@u.washington.edu

Mueller, M. M., Piazza, C. C., Patel, M. R., Kelley, M. E., & Pruett, A. (2004). Increasing variety of foods consumed by blending nonpreferred foods into preferred foods. *Journal of Applied Behavior Analysis, 37*(2), 159-170.

A treatment with differential or noncontingent reinforcement and nonremoval of the spoon increased the acceptance of one or two of 16 foods for 2 participants with severe food refusal. These differential levels of acceptance were demonstrated empirically in an ABAB design in which A was the presentation of the accepted (preferred) foods and B was the presentation of foods the participants refused (nonpreferred foods). Subsequently, we implemented a blending treatment that consisted of mixing (blending) nonpreferred foods into preferred foods in various ratios (e.g., 10% nonpreferred/90% preferred, 20% nonpreferred/80% preferred). We then presented

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nonpreferred foods that had been exposed to blending to determine if consumption of nonpreferred foods would increase following the blending treatment. We also conducted periodic reversals in which we presented nonpreferred foods that had not been exposed to the blending treatment. Following initial implementation of the blending treatment, consumption was high for nonpreferred foods that had been blended and low for nonpreferred foods that had not been blended. Consumption increased for all foods (i.e., foods that had been exposed to blending and foods that had not been exposed to blending) after seven or eight foods had been exposed to the blending treatment. Thus, the variety of foods consumed by the participants increased from one or two to 16. These results are discussed in terms of stimulus fading, conditioned food preferences, and escape extinction. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Cathleen C. Piazza, Marcus Institute, 1920 Briarcliff Road, Atlanta, GA 30329, US

Parkinson, K. N., Wright, C. M., & Drewett, R. F. (2004). Mealtime energy intake and feeding behaviour in children who fail to thrive: A population-based case-control study. *Journal of Child Psychology & Psychiatry, 45*(5), 1030-1035.

The essential link between energy needs and energy intake is feeding behaviour. A cohort of 961 term infants was screened to identify children with first year weight gain below the 5th centile in order to examine their feeding behaviour and food intake. Thirty children who failed to thrive and 57 controls were studied. The main outcome measures were counts of five feeding actions as well as energy intake, the weight of food eaten and meal duration. There were systematic differences in feeding behaviour between meal types, with mothers feeding their child more often at spoon food meals and children feeding themselves more at finger food meals. By weight, more food was consumed at the spoon food meals, but energy intake was no higher, showing that the children compensated for the differing energy yields of the foods. Children who failed to thrive took in less energy than controls, and were less likely to sit in a highchair throughout the meal, but there were no clear differences in other aspects of feeding behaviour. Food type is an important variable when studying childhood feeding behaviour. Children who fail to thrive take in less energy than controls of the same age, despite there being no major

differences in mealtime feeding behaviour. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Kathryn Parkinson, University of Newcastle, Centre for Health Services Research, School of Population & Health Sciences, 21 Claremont Place, Newcastle upon Tyne NE2 4AA, UK, Kathryn.Parkinson@ncl.ac.uk

Passey, J., & Feldman, M. (2004). Descriptive analysis of parent-child interactions in young children with or at risk for development delay. *Behavioral Interventions, 19*, 233-246.

Children with developmental delay (DD) are at risk for behavior problems, but little is known about natural contingencies of reinforcement that these children experience. The present study used descriptive analysis (antecedent-behavior-consequence observations) to study parent-child interactions of forty-seven, 2-3 year-old children with or at risk for DD. Child adaptive and inappropriate behavior as well as their antecedents and consequences were observed across four conditions (free play, parent directed play, mealtimes, parental distraction). When parents were engaged in another task (distraction), child appropriate behavior occurred less frequently than in the other conditions, and child inappropriate behavior occurred 63% of the time. A lack of parental attention and no activity were the most frequent antecedents for inappropriate behavior. Potential positive reinforcers appeared as consequences of inappropriate child behavior 77% of the time. These findings have implications for the development and prevention of serious behavior disorders. For reprints: Maurice Feldman, Department of Child and Youth Studies, Brock University, St. Catharines, Ontario, L2S 3A1, Canada, mfeldman@brocku.ca

Rapp, J. T. (2004). Effects of prior access and environmental enrichment on stereotypy. *Behavioral Interventions, 19*, 287-295.

A young boy's stereotypy was first evaluated in two daily 30 min sessions (one in the morning and one in the afternoon) during a free operant (FO) condition. Results from the two daily sessions during FO showed that stereotypy was lower during the second session of the day, suggesting that prior University of Florida Behavior Analysis Services Program

access had affected later engagement in stereotypy. The effects of environmental enrichment (EE) with music, EE music plus a guitar, and EE music plus a guitar plus contingent music loss on stereotypy were also evaluated. Unexpectedly, the results showed that the presence of music increased stereotypy during both daily sessions; however, contingent music loss decreased stereotypy and simultaneously increased untargeted guitar play. Increases in stereotypy during both daily sessions suggest that music may have increased the reinforcing value of stereotypy. For reprints: John T. Rapp, Ph.D., Texana MHMR Center, BTTC, 1818 Collins Road, Richmond, TX 77469, US, john.rapp@texanamhmr.com

Rasaratnam, R., Crouch, K., & Regan, A. (2004). Attitude to medication of parents/primary carers of people with intellectual disability. *Journal of Intellectual Disability Research, 48(8)*, 754-763.

Objective: To investigate the influence of attitudes of carers of people with intellectual disability (ID) towards giving medication. Method: Ninety-three carers of service users who are currently attending outpatients clinic (Harrow Learning Disability service) were interviewed, using the RAMS (Rating of Attitude to Medication Scale) interview schedule. Results: A significant association was found between relationship of the carer to the service user and overall positive or negative attitude towards medication, with a disproportionate number of parents expressing a negative attitude in comparison with professional carers (46% vs. 11%). Conclusion: This study suggests more work needs to be done with family carers than with professional carers to improve compliance with medication. Stigma is still associated with ID and psychiatric disorders. The family carers responses may be projecting their feelings related to the impact of having a child not only with ID, but also with additional psychiatric problems. The implication of the study for psychiatrists is the identification of a number of areas that could be usefully explored before writing a prescription. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Dr. R. Rasaratnam, Consultant Psychiatrist, Harperbury, Harper Lane, Nr. Radlett, Herts WD7 9HQ, UK, renuga.rasaratnam@hpt.nhs.uk

Reitman, D., Murphy, M. A., Hupp, S. D. A., & O'Callaghan, P. M. (2004). Behavior change and perceptions of change: Evaluating the effectiveness of a token economy. *Child & Family Behavior Therapy, 26*(2), 17-36.

Token economies often reduce problematic classroom behavior in preschool settings. In the present study, direct observation and teacher ratings of child behavior and treatment acceptability were utilized to evaluate the effectiveness of a token economy in a Head Start classroom. Because many teachers express concerns about the effort required to implement and maintain token systems, this study compared the relative efficacies of group and individualized contingency management programs. Direct observation data for three children revealed that both the individual and group contingency were superior to a baseline condition in which no systematic behavior management program was utilized. In addition, the whole group contingency was generally as effective as the individual contingency. However, despite reductions in classroom rule violations for the three target children, the acceptability of the token program was variable and little change was observed in the teacher's ratings of their behavior. The results suggest the ongoing need for multiple measures of treatment outcome (e.g., teacher and student ratings of acceptability and effectiveness, direct observation) even for empirically supported school-based interventions. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: David Reitman, PhD., Associate Professor, Center for Psychological Studies, Nova Southeastern University, 3301 College Avenue, Fort Lauderdale, FL 33314, US.

Roane, H. S., Fisher, W. W., Sgro, G. M., Falcomata, T. S., & Pabico, R. R. (2004). An alternative method of thinning reinforcer delivery during differential reinforcement. *Journal of Applied Behavior Analysis, 37*(2), 213-218.

Differential reinforcement of alternative behavior (DRA) may result in rates of reinforcement that are impractical for caregivers to implement; therefore, recent research has examined methods for thinning reinforcer delivery during DRA. In this study, reinforcer delivery was thinned during DRA by restricting access to the participants alternative response materials. (PsycINFO Database Record (c) University of Florida Behavior Analysis Services Program

2004 APA, all rights reserved) For reprints: Henry S. Roane, Marcus Institute, 1920 Briarcliff Road, Atlanta, GA 30329, US, Henry.Roane@Marcus.org Tarbox, J., Wallace, M. D., Tarbox, R. S. F.,

Landaburu, H. J., & Williams, W. L. (2004). Functional analysis and treatment of low rate problem behavior in individuals with developmental disabilities. *Behavioral Interventions, 19*(3), 187-204.

Extensive research has validated the standard functional analysis as a useful technology for identifying the function of problem behavior in individuals with developmental disabilities. The assessment of low rate problem behavior is one area that has yet to receive a significant amount of research. Some problem behaviors may occur at rates too low to be observed during a standard functional analysis, despite the fact that they may be highly destructive behaviors. The current study evaluated the effectiveness of initiating functional analysis sessions contingent on the occurrence of bursts of problem behavior for producing interpretable functional analysis results. While a standard functional analysis did not produce definitive results with respect to behavioral function, the 'low rate' functional analysis produced interpretable results for all three participants. Two of the three participants were available for the evaluation of treatments based on their functional analysis results. Function-based treatments suppressed rates of problem behavior for both participants. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Michele D. Wallace, Department of Psychology, 296, University of Nevada, Reno, Reno, NV 89557, US, wallacem@unr.edu

Thompson, R. H., McKerchar, P. M., & Dancho, K. A. (2004). The effects of delayed physical prompts and reinforcement on infant sign language acquisition. *Journal of Applied Behavior Analysis, 37*(3), 379-383.

Researchers and clinicians have recommended that sign language be taught to typically developing children during their first 2 years of life; however, existing research does not provide adequate information regarding appropriate methods of sign training. We used delayed physical prompting and reinforcement to teach manual signs to 3 children between the ages of 6 and 13 months. Data were

collected on the occurrence of prompted and independent signs as well as crying. Sign training was successful in producing independent signing in all 3 children in under 4 hr of training per child. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Rachel H. Thompson, Department of Human Development, University of Kansas, 1000 Sunnyside Ave., Lawrence, KS 66045, US, rthomps@ku.edu

Wales, L., Charman, T., & Mount, R. H. (2004). An analogue assessment of repetitive hand behaviours in girls and young women with rett syndrome. *Journal of Intellectual Disability Research, 48*(7), 672-678.

Background: Rett syndrome is a neurodevelopmental disorder that almost exclusively affects females. In addition to neurodevelopmental regression and loss of hand skills, apraxia, deceleration of head growth, and increasing spasticity and scoliosis, a number of behavioural features are also seen, including stereotypic hand movements, hyperventilation and breath holding. The aim of the study was to investigate the extent to which analogue environmental conditions affected the frequency of repetitive hand behaviour in eight girls and young women with Rett syndrome. Method: The frequency of repetitive hand movements was observed every 10 s for four 4-min sessions under the following conditions: Continuous Adult Attention, Adult Demands, Stimulation and No Stimulation. Results: The frequency of repetitive hand movements was high - they occurred in above 60% of all intervals in all conditions for all participants and at nearly 100% for some participants in some conditions. For one participant the frequency of repetitive hand movements was somewhat reduced in the Stimulation condition; for another it was relatively increased in the No Stimulation condition. Conclusions: Overall, environmental manipulations had relatively limited effects on repetitive hand behaviours. Repetitive hand behaviour in Rett syndrome may be maintained by automatic reinforcement or neurochemical processes and may not be primarily influenced by contingent reinforcement. (PsycINFO Database Record (c) 2004 APA, all rights reserved) For reprints: Lorna Wales, Occupational Therapy Department, Children's Trust, Tadworth, Surrey, KT20 5RU, UK, lwales@thechildrenstrust.org.uk

Behavioral Parenting Featured Article Review

Treatment Acceptability

Kim N. Sloman

Boothe, J. L., & Borrego, J. (2004). Parents' acceptance of behavioral interventions for children with behavior and communication problems. *Child & Family Behavior Therapy, 26*(2), 1-15.

Prior research suggests that caregiver and client acceptability of treatment may affect the implementation and effectiveness of the treatment (e.g. Addis & Jacobson, 2000, Kazdin, 1980a, Reimers, Wacker, Derby, & Cooper, 1995). For example, Addis and Jacobson (2000) examined the effects of treatment acceptability and homework compliance on negative thoughts for individuals being treated for depression. The results indicated that both the acceptability of treatment and homework compliance decreased negative thoughts of the participants. Due to evidence that treatment acceptability may influence treatment outcomes, several researchers have investigated factors influencing treatment acceptability, including parental attributions (Reimers et al., 1995), race and socioeconomic status (Heffer & Kelley, 1987), as well as type of treatment and severity of problem behavior (e.g., Kazdin, 1980a).

Boothe and Borrego (2004) evaluated acceptability ratings of seven behavioral treatments in parents with children being treated for communication problems. Eighty-seven participants read vignettes describing either a child with behavior problems or both behavior and communication problems. The participants were then asked to rate the acceptability of various behavioral treatments. The treatments included differential attention (i.e., attention for appropriate behavior instead of problem behavior), positive reinforcement (e.g., delivery of preferred items when appropriate behavior occurs), time-out (e.g., removing the individual from reinforcing activities for a brief period of time), response-cost (e.g., removal of a preferred item when problem behavior occurs), spanking, overcorrection (e.g., repeated practice of correct response when problem behavior occurs), and medication. Results of this study showed that the participants rated response-cost as the most acceptable treatment. In addition, participants preferred treatments with non-verbal components such as taking away preferred items (response-cost) or placing the child in time-out. Finally, participants who read the vignette describing the child with both behavioral and communication problems rated overcorrection more acceptable than participants who read the behavioral problem only vignette.

The results of Boothe and Borrego may have important implications for the selection of interventions for children with communication and behavioral problems. For example, several studies involving parents of children with socially disruptive problems have found parental preference for treatments involving positive reinforcement (e.g., Heffer & Kelley, 1987). However, this study showed that a majority of parents of children with communication problems rated response-cost as most acceptable followed by

overcorrection and time-out. Therefore, it is possible that parents of children with communication problems may be more likely to implement such preferred treatments, which in turn might result in a more successful treatment outcome. The results of Boothe and Borrego also showed that participants found overcorrection to be more acceptable when the vignette described a child with both communication and behavioral problems. These results correspond with other studies which showed that participants found treatments more acceptable overall when the child exhibited more severe problem behavior such as aggression (e.g., Kazdin, 1980). However, such results were only demonstrated for overcorrection and the severity of problem behavior did not affect the acceptability of other treatments. Finally, results of this study also showed that parents were more likely to rate treatments containing non-verbal components as more acceptable, especially with the vignettes involving a child with both behavioral and communication problems. This finding may be due to the fact that the parents had children being treated for communication disorders. As a result, participants may have had experience with several treatments involving both verbal and nonverbal components. It is possible that the participants found treatments containing non-verbal components such as overcorrection and time-out to be more effective for their own children and this may have influenced the results.

There are some limitations to this study that may affect the interpretation of the results. First, the authors suggested that the sample may have been too limited and therefore not completely representative of parents of children with communication disorders. Consequently, different results may have been produced with a sample consisting of participants with broader socioeconomic statuses and

education levels. Second, the authors discussed that the examination of findings is limited due to the use of hypothetical vignettes. It is possible that although participants found certain treatments acceptable for the child described in the vignette, they would not find the same treatments acceptable for their own children. Third, the authors reported that they did not control for differences in severity of problem behavior for each participant's child. It is possible that parents of children with more severe communication problems rated treatments differently than parents of children with less severe communication problems.

Boothe and Borrego stressed the importance of treatment acceptability for the implementation and success of behavioral interventions in the natural environment. The results of the study extend previous findings by showing that response-cost was rated most acceptable among parents of children with communication problems. In addition, treatments with non-verbal components were also rated more acceptable for this population. These findings have important implications for the types of treatments that are recommended for children with communication disorders. Previous research has suggested that when parents find treatment acceptable, they are more likely to adhere to treatment recommendations (e.g., Kazdin, 1980a). Therefore, the acceptability of treatment is an important factor in developing and employing effective interventions. However, it is also important for therapists to focus on other factors influencing compliance with treatment recommendations. For example, Allen and Warzak (2000) described several causes of treatment non-adherence including lack of training and competing social approval. These factors, as well as treatment acceptability, should be further investigated in future research for more

successful and sustained implementation of behavioral treatments.

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