JOURNAL OF APPLIED BEHAVIOR ANALYSIS 2005, **38,** 373–383 NUMBER 3 (FALL 2005)

# *DESCRIPTIVE ANALYSES OF CAREGIVER REPRIMANDS*

KIMBERLY N. SLOMAN, TIMOTHY R. VOLLMER,
NICOLE M. COTNOIR, AND CARRIE S.W. BORRERO
UNIVERSITY OF FLORIDA

JOHN C. BORRERO
UNIVERSITY OF THE PACIFIC

AND

ANDREW L. SAMAHA AND CLAIRE C. ST. PETER
UNIVERSITY OF FLORIDA

We conducted descriptive observations of 5 individuals with developmental disabilities and severe problem behavior while they interacted with their caregivers in either simulated environments (an inpatient hospital facility) or in their homes. The focus of the study was on caregiver reprimands and child problem behavior. Thus, we compared the frequency of problem behavior that immediately preceded a caregiver reprimand to that immediately following a caregiver reprimand, and the results showed that the frequency of problem behavior decreased following a reprimand. It is possible that caregiver reprimands are negatively reinforced by the momentary attenuation of problem behavior, and the implications for long- and short-term effects on caregiver behavior are discussed.

DESCRIPTORS: descriptive analysis, problem behavior, reprimands

Several studies have shown that the integrity with which caregivers implement treatment may initially be acceptable but often decreases over time (e.g., Mortenson & Witt, 1998; Noell et al., 2000). Allen and Warzak (2000) proposed a functional analysis of the variables that maintain parental nonadherence. The authors listed several possible reasons for treatment nonadherence, including the complexity of the intervention, inadequate training, and weak rule following on the part of the caregiver. The authors also discuss the possibility of competing environmental contingencies such as increases in child problem behavior immediately after implementation of the intervention. The general notion is that a child's behavior may influence the probability that caregivers will implement the intervention as prescribed. Thus, the effects of child behavior on caregiver behavior would have important implications for treatment implementation in the natural environment.

Previous studies have has examined the effects of child behavior on adult behavior. For example Stevens-Long (1973) instructed caregivers to respond to videotaped sequences of an overactive, underactive, or average child. The caregivers then selected a method of discipline for each child. The author found that overactive children were disciplined more severely than average or underactive children. Several additional studies have found that adults are less likely to attend to problem behavior maintained by escape from demands and more likely to attend to problem behavior maintained by attention (e.g., Carr, Taylor, & Robinson, 1991; Taylor & Carr, 1992; Taylor &

Portions of this research were supported by Grant HD38698 from the National Institute of Child Health and Human Development. We thank Jennifer Asmus and Brian Iwata for their comments on earlier drafts.

Reprints may be obtained from Timothy R. Vollmer, Department of Psychology, University of Florida, Box 112250, Gainesville, Florida 32611.

doi: 10.1901/jaba.2005.118-04

Romanczyk, 1994). For instance, Taylor and Carr observed adult interactions with normal children (NP group) and children with both attention-seeking (AS group) and social avoidance problem behavior (SA group). The authors found that adults were less likely to attend to individuals in the SA group compared to both the NP and AS groups. In addition, adults were more likely to attend to the AS group than the NP group. In a similar study, Carr et al. observed adults who were instructed to teach pairs of children that consisted 1 child who was reported to engage in problem behavior and one who did not. Children with a history of engaging in problem behavior were more likely to do so following the presentation of a task command than were children who did not engage in problem behavior. In addition, adults were less likely to deliver task commands to the child who engaged in problem behavior than the child who did not. Presumably, commands presented to children with problem behavior produced aversive outcomes (the child engaged in problem behavior) for the caregiver.

An examination of the effects of child behavior on caregiver behavior is important because caregiver behavior may be sensitive to changes in child behavior as either punishment or reinforcement. However, an experimental analysis of this relation would require the systematic manipulation of child behavior as the independent variable, which may be impractical. Therefore, descriptive analyses may provide a starting point for examining relations between caregiver and child behavior. Descriptive analyses typically involve direct observations of participants and caregivers during naturalistic conditions. During descriptive analyses, observers record the frequency or duration of specific events and the behavior of the participant and their caregivers (Bijou, Peterson, & Ault, 1968). Such analyses permit an examination of behavior and environmental events in the natural environment. This type of analysis has primarily been used to identify potential reinforcers for problem behavior such as stereotypy (e.g., Mace & Belfiore, 1990; Tang, Kennedy, Koppekin, & Caruso, 2002), bizarre speech (Mace & Lalli, 1991), and self-injury (e.g., Lerman & Iwata, 1993; Maurice & Trudel, 1982), among others.

For example, Thompson and Iwata (2001) evaluated descriptive analysis data to determine whether staff presented attention, escape, and access to materials following problem behavior that occurred in a state residential facility. Vollmer, Borrero, Wright, Van Camp, and Lalli (2001) analyzed the extent to which the same events were presented contingent on problem behavior by comparing both conditional (the probability of an event given problem behavior) and background (the probability of an event independent of problem behavior) probabilities of these caregiver responses. Both Thompson and Iwata and Vollmer et al. observed caregiver behavior that might contribute to the development and maintenance of severe behavior problems. However, contingencies that influenced these problematic caregiver responses were not analyzed.

Typically, then, descriptive analyses have primarily been used to examine the potential function of child (or client) behavior with respect to environmental events such as socially mediated consequences provided by a caregiver. However, some researchers have used descriptive observations to evaluate a caregiver's behavior. Thomas, Presland, Grant, and Glynn (1978) and White (1975) conducted in-class observations of teachers and recorded the natural rates of the teachers' verbal approval and disapproval statements. Both studies compared approving to disapproving statements and found that the rates of teacher disapproval were higher than the rates of teacher approval. In addition, Thomas et al. examined the correlation between teacher approval or disapproval and students' on-task behavior. The authors reported a positive correlation between teacher approval and students' on-task behavior and

a negative correlation between teacher disapproval and students' on-task behavior. Atwater and Morris (1988) conducted descriptive analyses of teachers' instructions and children's compliance in the classroom. Observers recorded different forms of teacher instructions across a variety of settings. Results showed little correlation between type of instruction and student compliance.

Descriptive analyses similar to those described above may be useful in identifying naturally occurring events that are associated with caregiver behavior. Effective interventions for severe problem behavior necessarily require a change in caregiver behavior. Presumably, caregiver behavior can be changed most effectively if we understand its maintaining variables. Although many forms of caregiver behavior are of interest to behavior analysts, we began by targeting reprimands for problem behavior. Descriptive data suggest that caregiver attention is the most common naturally occurring consequence for problem behavior (e.g., Thompson & Iwata, 2000; Vollmer et al., 2001), and caregiver reprimands appear to be one very common form of attention for problem behavior (Maurice & Trudel, 1982). Because caregiver reprimands often serve as positive reinforcement for problem behavior (e.g., Iwata et al., 1994), caregivers are typically instructed to refrain from reprimanding problem behavior and to provide differential consequences for appropriate responses (e.g., Budd, Greene, & Baer, 1976; Marcus, Swanson, & Vollmer, 2001). Despite this training, many caregivers continue to reprimand problem behavior.

The purpose of the present study was to use descriptive observations to identify the frequency of child problem behavior surrounding caregiver reprimands. This analysis may provide a starting point to detect possible contingencies that affect the occurrence of reprimands in the natural environment. For example, if child problem behavior temporarily decreases following caregiver reprimands, the behavior of reprimanding may be negatively reinforced by the momentary attenuation of problem behavior.

## METHOD

### *Participants*

Participants were 5 caregiver–child dyads. Child participants had been referred for the assessment and treatment of severe problem behavior. The caregivers included a mother, father, siblings, or some combination.

Walsh was a 7-year-old boy who had been diagnosed with mild mental retardation and a seizure disorder. His primary target behavior included aggression, which consisted of hitting, kicking, and spitting on others; and disruption, which consisted of throwing and banging objects. Walsh's caregivers were his adoptive mother and father.

Antoine was an 8-year-old boy who had been diagnosed with mild mental retardation. His primary target behavior included aggression, which consisted of hitting and kicking others; and disruption, which consisted of climbing on furniture and throwing and banging objects. Antoine's caregiver was his mother.

Alice was a 14-year-old girl who had been diagnosed with childhood disintegrative disorder. Her primary target behavior included aggression, which consisted of hitting and kicking others; and disruption, which consisted of throwing objects. Alice's caregivers were her mother, father, and older brother.

Greg was an 8-year-old boy who had been diagnosed with mild mental retardation and autism. His primary target behavior was disruption, which consisted of screaming, elopement (leaving a room and entering an unsupervised area), and throwing objects. Greg's caregivers included his mother, father, and two older brothers.

Mario was a 16-year-old boy who had been diagnosed with moderate mental retardation. His primary target behavior was elopement

(leaving a room and entering an unsupervised area). Mario's caregivers were his mother and father.

Observations were conducted in an inpatient hospital facility for Walsh, Alice, Greg, Mario, and their families. Rooms resembled living areas and were equipped with couches, tables, chairs, and various play items. Antoine's and his mother's observations were conducted in various locations throughout their home. To our knowledge, caregivers had no previous training in implementing behavioral interventions.

*Descriptive Analysis*

Descriptive analyses were conducted once per week for all participants using methods described by Vollmer et al. (2001). Each observation lasted 10 to 30 min. Both nonscripted and scripted observations were conducted. In nonscripted observations, caregivers and participants were escorted into a room, and caregivers were instructed to interact with the participants as they would in the home and to respond as if they were not being observed. Data were collected on three potential reinforcers (attention, escape from demands, and access to tangible items). At times, caregivers seemed to avoid particular situations (e.g. self-care). When this happened repeatedly, experimenters instructed caregivers to interact with the children with scripted antecedent events, but they were given no instructions about consequences. For example, a therapist might say, "Show me what happens when you ask Walsh to make the bed." For the purposes of this study, we were only interested in caregiver reprimands and the events surrounding those reprimands. Data describing other relations observed during the descriptive analysis were used for either clinical purposes or for additional research (Borrero, Vollmer, Borrero, & Bourret, in press). The total observation time for Walsh, Antoine, Alice, Greg, and Mario was 7 hr, 11 hr, 10 hr, 12 hr, and 27 hr, respectively.

Observers were graduate and undergraduate students who had three consecutive interobserver agreement scores of greater than 90% with trained observers. Observers in the hospital setting were seated behind a one-way mirror or at a table in the room. Observers in the home setting were seated as unobtrusively as possible in various locations in the home. Observers used handheld or laptop computers that recorded real-time data on a variety of environmental and behavioral events. However, for the purpose of this study, only child problem behavior and caregiver reprimands were entered into the data analysis. It was possible for other parental behavior to precede or follow problem behavior during the descriptive observations. For example, problem behavior occasionally was followed by both a reprimand and restriction of toys. However, such events combined with reprimands were rare in these observations. Reprimands were considered to be a specific type of caregiver attention. Reprimands were defined as disapproving statements directed toward the child that were presented with exclamatory intonation and taut facial expressions. Some examples would be "Get down from there!" and "No, don't hit your sister!" Observers recorded reprimands as a frequency measure. Therefore, the reprimand "Stop hitting your sister!" appeared as one discrete instance in the data stream.

*Interobserver Agreement*

Two observers simultaneously and independently collected data on child problem behavior (e.g., aggression) and caregiver reprimands. Each observation was divided into 10-s bins, and the number of observed responses was scored for each bin. For each bin, the smaller number of observed responses was divided by the larger number of observed responses. The results were then averaged across the entire session. Interobserver agreement was assessed on 50%, 87%, 50%, 40%, and 67% of the sessions for Walsh, Antoine, Alice, Greg, and Mario, respectively. Agreement for Walsh's aggression

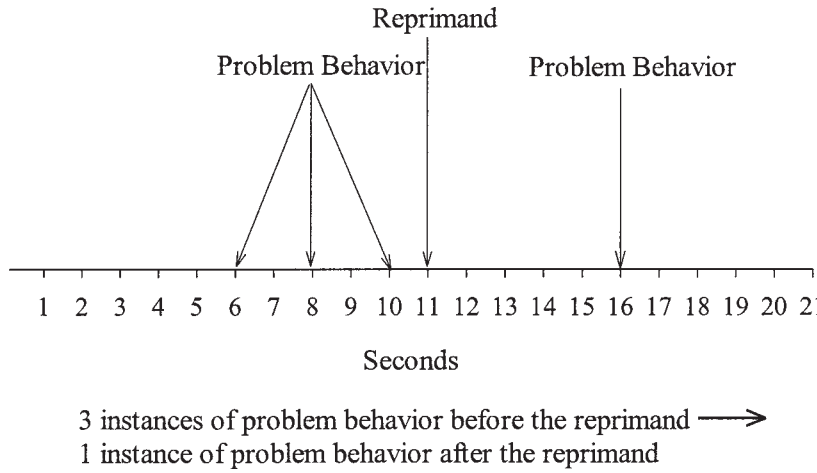


Figure 1. Example of data analysis depicting instances of problem behavior that occurred before and after a reprimand.

and disruption averaged 97%; agreement for his caregivers' reprimands averaged 94%. Agreement for Antoine's aggression and disruption averaged 93%; agreement for his caregiver's reprimand averaged 96%. Agreement for Alice's aggression and disruption averaged 98%; agreement for her caregivers' reprimands averaged 98%. Agreement for Greg's disruption averaged 98%; agreement for his caregivers' reprimands averaged 96%. Agreement for Mario's elopement averaged 98%; agreement for his caregivers' reprimands averaged 96%.

*Data Analysis*

Descriptive analysis data streams were analyzed by calculating the frequency of problem behavior within 10 s before and 10 s after a reprimand. The 10-s window was selected because it allowed us to identify immediate changes in problem behavior both before and after a reprimand. Also, other time windows were analyzed and similar results were obtained. The total instances of problem behavior that occurred within 10 s before a reprimand were summed for the entire observation period. In addition, the total instances of problem behavior that occurred within 10 s after a reprimand were summed for the entire observation period. Figure 1 displays an example of the data analysis. First, we identified the time at which a reprimand occurred. In this example, the reprimand occurs at Second 11. Next, each instance of problem behavior that occurred within 10 s before and 10 s after the reprimand was identified and totaled. In the example, there are three instances of problem behavior from Seconds 1 to 10 and one instance of problem behavior from Seconds 12 to 21. These steps were repeated for each instance of reprimands. Each reprimand and all instances of problem behavior that occurred before the reprimand and after the reprimand were summed for the entire observation period. Reprimands that had no problem behavior within the 10-s interval before or after were not included. For example, if a reprimand occurred at Second 11 but no problem behavior occurred in the 10-s window before or after the reprimand, the instance was omitted from the analysis (this rarely happened).

Prior descriptive analysis research has attempted to detect possible contingencies of reinforcement via a comparison of the conditional probability of some event given a response versus the unconditional probability of that event (Vollmer et al., 2001) in the context of a relevant establishing operation (EO). For example, one might explore the conditional probability of escape from demands given

Table 1
Total Reprimands and Problem Behavior across Participants

| Participant | Total reprimands | Total contiguous problem behaviors | Problem behavior before reprimand | Problem behavior after reprimand |
|---|---|---|---|---|
| Walsh | 32 | 74 (56 aggression, 18 disruption) | 58 | 16 |
| Antoine | 25 | 126 (9 aggression, 117 disruption) | 79 | 44 |
| Alice | 20 | 37 (33 aggression, 4 disruption) | 22 | 15 |
| Greg | 32 | 37 (21 screaming, 16 elopement) | 32 | 5 |
| Mario | 37 | 15 (elopement) | 9 | 6 |

problem behavior in comparison to the unconditional probability of escape. In that example, demands are the EO for escape as reinforcement. In the case of the current analysis, child problem behavior is the possible EO, establishing escape or offset of problem behavior as reinforcement. We compared two conditional probabilities: the conditional probability of problem behavior within 10 s of an initial instance of problem behavior (Conditional Probability 1) and the same probability when an intervening reprimand occurred (Conditional Probability 2). If the conditional probability of problem behavior given an intervening reprimand is lower, a possible negative contingency exists between reprimands and problem behavior.

## RESULTS

Table 1 displays the total instances of reprimands and contiguous problem behavior that occurred before and after a reprimand for each participant. The modal instances of problem behavior for Walsh, Alice, Greg, and Mario were one instance of problem behavior before the reprimand and zero instances after. For Antoine, the modal instances of problem behavior were three instances before the reprimand and one instance after.

The data from each descriptive analysis were first analyzed to examine the overall distribution of problem behavior in relation to reprimands throughout the entire observation period. Figure 2 (top) shows that the mean instances of problem behavior that occurred within 10 s before the reprimand was higher than the mean instances of problem behavior occurring within 10 s after the reprimand for each participant. Data were also analyzed to examine within-observation patterns of responding. Figure 2 (bottom) displays the percentage of reprimands that were associated with an increase, decrease, or no change in problem behavior. No change resulted when the instances of problem behavior before a reprimand equaled the instances of problem behavior after a reprimand. The majority of reprimands resulted in a decrease in problem behavior for all participants ($M$ = 71%, range, 58% to 85%).

Figure 3 shows the frequency distribution of problem behavior within 10 s before and 30 s after all instances of reprimands combined for each participant. The time window for the frequency distribution analysis was extended to 30 s to identify response patterns in problem behavior over longer periods. In these graphs, the reprimand occurs at Second 0, and the total problem behavior that occurred in each second is summed over the descriptive analysis. For example, for Walsh, 21 instances of problem behavior occurred 1 s before the reprimand across all reprimands. These results show that most problem behavior occurred 1 to 2 s before a reprimand. In addition, the frequency of problem behavior was reduced immediately following a reprimand.

Figure 4 shows the results of the conditional probability comparison. For 4 of 5 participants, the conditional probability of problem behavior within 10 s of an initial instance of problem behavior given an intervening reprimand (Conditional Probability 2) was lower than the

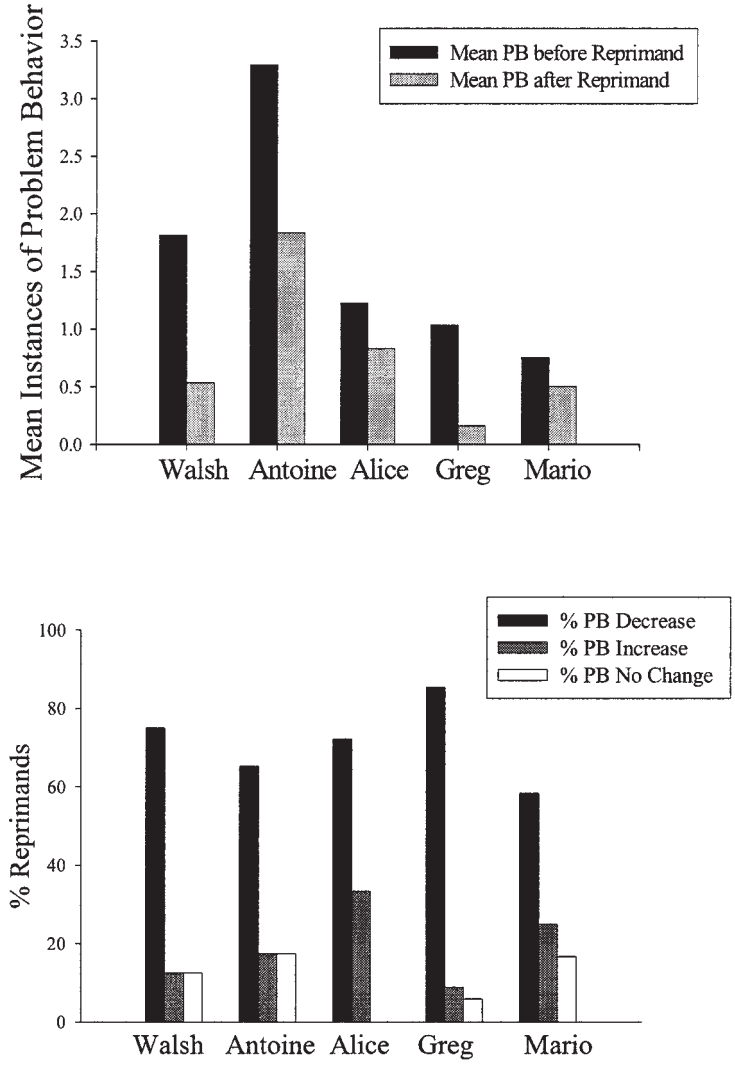


Figure 2. Mean instances of problem behavior 10 s before and 10 s after reprimands for the entire observation period for all participants (top). Percentage of reprimands that resulted in an increase, decrease, or no change in problem behavior for all participants (bottom).

conditional probability of problem behavior within 10 s of an initial instance of problem behavior (Conditional Probability 1). The exception was Alice, for whom the two probabilities were roughly equal.

## DISCUSSION

Data from descriptive observations of 5 participants and their caregivers were analyzed to identify relations between reprimands and child problem behavior. For all participants, reprimands were correlated with at least a temporary decrease in problem behavior. To the extent that the children's problem behavior was aversive to these caregivers, the reductions that immediately followed the reprimands could have yielded a negative reinforcement effect. No such effect was established here, given the limitations of descriptive research, but the

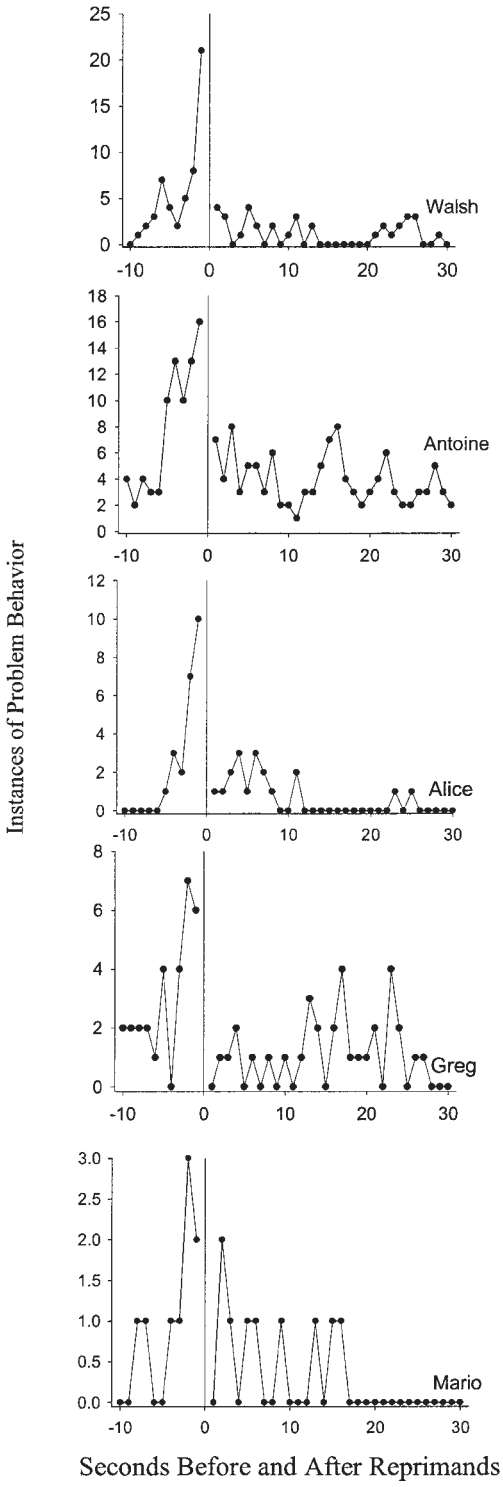


Figure 3. Frequency distributions of total problem behavior 10 s prior to and 30 s after a reprimand. Reprimands occurred at 0.

results show that the social environment was arranged in a way that would very likely yield negative reinforcement of reprimanding.

Additional examinations of relations between child problem behavior and corresponding caregiver behavior could enhance training for caregivers. For example, a common target of training is reducing caregiver attention directed to problem behavior. Reprimands are a form of attention, and they are almost always directed to problem behavior. Although in form they may seem to serve a punitive function, in fact they may serve a reinforcing one (e.g., Iwata et al., 1994). The results here potentially reveal a source of reinforcement for reprimanding that may not always be taken into account in caregiver training. Specifically, reprimands were associated with reductions in problem behavior, which presumably is the fundamental purpose of their use. Thus, absent specific training that employs a more rule-governed or experiential approach (videotapes, data displays, role playing, etc.) to reducing reprimands, they may remain prepotent in the caregiver repertoire.

Directly relevant to these points is consideration of why child problem behavior decreased following reprimands. One possibility is that reprimands are a reinforcer (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982/1994) and the temporary reduction is a postreinforcement pause. A second possibility is that reprimands are punishers (Van Houten, Nau, MacKenzie-Keating, Sameoto, & Colavecchia, 1982). A third possibility is that reprimands have no effect and problem behavior decreases coincidentally. Whether research that more definitively determines why decreased problem behavior often follows reprimands could assist in reductions in their use is unknown. The fact remains, however, that the reductions in problem behavior are potentially powerful sources of negative reinforcement for reprimanding.

There are some limitations of this study that can be addressed in future research. For

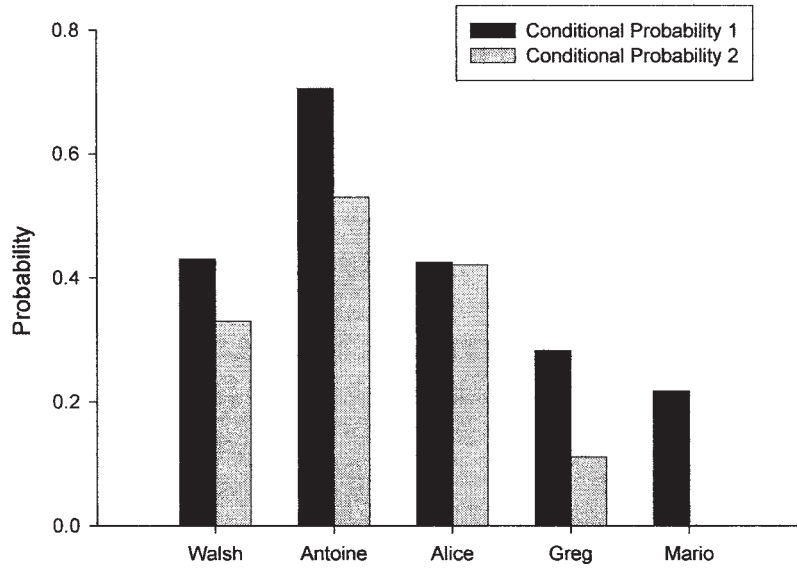


Figure 4. Conditional probability of problem behavior within 10 s of an initial instance of problem behavior (Conditional Probability 1) compared to the conditional probability of problem behavior within 10 s of an initial instance of problem behavior given an intervening reprimand (Conditional Probability 2).

example, an experimental analysis of reprimands and problem behavior was not included. Thus, it is not possible to determine the function of reprimands (e.g., whether they served as reinforcement or punishment for problem behavior) or of the decreases in problem behavior (e.g., whether they served as reinforcement for reprimands). Future studies could conduct functional analyses of caregiver reprimands by using role-playing or computer-simulated programs. For example, Loeber (1971) presented a videotape of a child engaging in self-injury to nursing staff. The nursing staff was instructed to press buttons to signify implementation of a treatment at certain points in the tape. The procedure permitted assessment of accuracy of treatment implementation across a variety of conditions. A similar arrangement could be used with caregivers to test the reduction, maintenance, or increase in problem behavior on an analogue operant response, such as button pressing. Also, because attaining sufficient control of child behavior to allow an experimental analysis of caregiver behavior relevant to the behavior or caregiver training involving the behavior can be difficult, a potentially effective alternative is to use role playing.

Another limitation is that the analysis focused on only one potential influence on caregiver reprimands: child problem behavior. Yet reprimands may be sensitive to numerous environmental factors. For example, it is possible that caregiver reprimands receive approval from spouses or other family members. Conversely, reluctance to reprimand problem behavior may result in disapproval (e.g., "You can't just sit there and let him get away with that!"). In addition, only one form of caregiver behavior—reprimanding—was evaluated. It is probable that other caregiver behaviors, such as instruction delivery, task termination, delivery of materials, and other forms of attention, are also sensitive to changes in frequency of child problem behavior. Therefore, future studies should analyze descriptive data with respect to other variables and response forms.

Although there is a vast literature that has analyzed the influence of contingencies employed by caregivers on the behavior of children with whom they work, the literature on the contingencies that affect caregiver behavior is scant. Yet caregivers are fundamentally responsible for delivering effective treatment, and thus it seems crucial to inaugurate a vigorous line of investigation into variables that may help or interfere with treatment. The research here has suggested but one—the potential effect of reduced problem behavior on increased use of reprimands—and even it awaits a functional analysis. Needed are additional batches of descriptive data pertaining to other variables that influence caregiver behavior (e.g., various EOs, level and amount of training, etc.), caregiver variables that are influenced by child behavior (e.g., rate and quality of treatment delivery), and analyses that identify the potential functions of these variables. Behavior analysts have advanced the care of children by extending knowledge of environmental influences on child behavior. They could advance the care of children even further by employing behavior-analytic methods to extend knowledge of environmental influences on the behavior of their caregivers.

## REFERENCES


Allen, K. D., & Warzak, W. J. (2000). The problem of parental nonadherence in clinical behavior analysis: Effective treatment is not enough. *Journal of Applied Behavior Analysis*, *33*, 373–391.

Atwater, J. B., & Morris, E. K. (1988). Teacher's instructions and children's compliance in preschool classrooms: A descriptive analysis. *Journal of Applied Behavior Analysis*, *21*, 157–167.

Bijou, S. W., Peterson, R. F., & Ault, M. H. (1968). A method to integrate descriptive and experimental field studies at the level of data and empirical concepts. *Journal of Applied Behavior Analysis*, *1*, 175–191.

Borrero, C. S. W., Vollmer, T. R., Borrero, J. C., & Bourret, J. (in press). A method of evaluating parameters of reinforcement during parent-child interactions. *Research in Developmental Disabilities*.

Budd, K. S., Greene, D. R., & Baer, D. M. (1976). An analysis of multiple misplaced parental social contingencies. *Journal of Applied Behavior Analysis*, *9*, 459–470.

Carr, E. G., Taylor, J. C., & Robinson, S. (1991). The effects of severe behavior problems in children on the teaching behavior of adults. *Journal of Applied Behavior Analysis*, *24*, 523–535.

Iwata, B. A., Dorsey, M. F., Slifer, K. J., Bauman, K. E., & Richman, G. S. (1994). Toward a functional analysis of self-injury. *Journal of Applied Behavior Analysis*, *27*, 197–209. (Reprinted from *Analysis and Intervention in Developmental Disabilities, 2*, 3–20, 1982)

Iwata, B. A., Pace, G. M., Dorsey, M. F., Zarcone, J. R., Vollmer, T. R., Smith, R. G., et al. (1994). The functions of self-injurious behavior: An experimental-epidemiological analysis. *Journal of Applied Behavior Analysis*, *27*, 215–240.

Lerman, D. C., & Iwata, B. A. (1993). Descriptive and experimental analyses of variables maintaining self-injurious behavior. *Journal of Applied Behavior Analysis*, *26*, 293–319.

Loeber, R. (1971). Engineering the behavioral engineer. *Journal of Applied Behavior Analysis*, *4*, 321–326.

Mace, F. C., & Belfiore, P. (1990). Behavioral momentum in the treatment of escape-motivated stereotypy. *Journal of Applied Behavior Analysis*, *23*, 507–514.

Mace, F. C., & Lalli, J. S. (1991). Linking descriptive and experimental analyses in the treatment of bizarre speech. *Journal of Applied Behavior Analysis*, *24*, 553–562.

Marcus, B. A., Swanson, V., & Vollmer, T. R. (2001). Effects of parent training on parent and child behavior using procedures based on functional analyses. *Behavioral Interventions*, *16*, 87–104.

Maurice, P., & Trudel, G. (1982). Self-injurious behavior prevalence and relationships to environmental events. In J. H. Hollis (Ed.), *Life-threatening behavior: Analysis and intervention* (pp. 81–103). Washington, DC: American Association on Mental Retardation, Monograph No 5.

Mortenson, B. P., & Witt, J. C. (1998). The use of weekly performance feedback to increase teacher implementation of a prereferral academic intervention. *School Psychology Review*, *27*, 613–627.

Noell, G. H., Witt, J. C., LaFleur, L. H., Mortenson, B. P., Ranier, D. D., & LeVelle, J. (2000). Increasing intervention implementation in general education following consultation: A comparison of two follow-up strategies. *Journal of Applied Behavior Analysis*, *33*, 271–284.

Stevens-Long, J. (1973). The effects of behavioral context on some aspects of adult disciplinary practice and affect. *Child Development*, *44*, 476–484.

Tang, J., Kennedy, C. H., Koppekin, A., & Caruso, M. (2002). Functional analysis of stereotypical ear covering in a child with autism. *Journal of Applied Behavior Analysis*, *35*, 95–98.

Taylor, J. C., & Carr, E. G. (1992). Severe problem behaviors related to social interaction. *Behavior Modification*, *16*, 336–371.

Taylor, J. C., & Romanczyk, R. G. (1994). Generating hypotheses about the function of student problem behavior by observing teacher behavior. *Journal of Applied Behavior Analysis*, *27*, 251–265.

Thomas, J. D., Presland, I. E., Grant, M. D., & Glynn, T. (1978). Natural rates of teacher approval and disapproval in grade 7 classrooms. *Journal of Applied Behavior Analysis*, *11*, 91–94.

Thompson, R. H., & Iwata, B. A. (2001). A descriptive analysis of social consequences following problem behavior. *Journal of Applied Behavior Analysis*, *34*, 169–178.

Van Houten, R., Nau, P. A., MacKenzie-Keating, S. E., Sameoto, D., & Colavecchia, B. (1982). An analysis of some variables influencing the effectiveness of reprimands. *Journal of Applied Behavior Analysis*, *15*, 65–83.

Vollmer, T. R., Borrero, J. C., Wright, C. S., Van Camp, C., & Lalli, J. S. (2001). Identifying possible contingencies during descriptive analyses of severe behavior disorders. *Journal of Applied Behavior Analysis*, *34*, 269–287.

White, M. A. (1975). Natural rates of teacher approval and disapproval in the classroom. *Journal of Applied Behavior Analysis*, *8*, 367–372.

*Received August 9, 2004*
*Final acceptance April 18, 2005*
*Action Editor, Rachel Thompson*