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The Use of Functional Communication Training with Precision Teaching to Reduce the Challenging Behavior of a Toddler with Autism

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In this study, we incorporated functional communication training with Precision Teaching to reduce the challenging behavior of a 2-year-old male with autism. In addition, a treatment that increased an alternative form of communication by teaching the sign "please" was implemented. The results indicate that this combination of treatments can effectively reduce challenging behavior. Also, the investigation demonstrates the utility of monitoring treatment outcomes using Precision Teaching procedures. Specifically, Standard Celeration Charts were used. This graphic methodology allowed us to make daily decisions regarding the child's performance

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Functional analysis (FA) has helped practitioners and researchers gain an increased understanding of variables that maintain self-injury (Iwata, 1994). For challenging behavior, including those that are not self-injurious, one way of selecting a potentially effective treatment is to complete a functional analysis to determine which events are currently maintaining the behavior (Iwata, Dorsey, Slifer, Bauman, & Richman, 1994). Generally, FA has identified three distinct classes of reinforcement that maintain challenging behavior.

First, challenging behavior can be maintained by consequences delivered via the behavior itself. Often classified as behavior maintained by "automatic reinforcement" (Iwata et al., 1994), this class of challenging behavior is often resistant to social contingencies. Two social variables have been found to maintain challenging behavior as well: positive reinforcement in the form of social attention and negative reinforcement in the form of escape from tasks.

Many behavioral interventions have been developed for the purpose of reducing challenging behavior maintained by positive and negative reinforcement. One procedure that has been effective in the past, functional communication training (FCT), involves teaching an alternative of communication that serves the same function as challenging behavior. When FCT is employed, challenging behavior is eliminated via extinction, and an alternative form of communication is reinforced using the same contingencies that maintain aberrant behavior (Wacker et al., 1990). Thus, the child is taught a more efficient response to gain a desired reinforcer and, at the same time, challenging behavior is reduced (Durand & Carr, 1991).

Functional communication training provides many advantages over other differential reinforcement treatments (i.e., Differential Reinforcement of Other Behavior; Differential Reinforcement of Incompatible Behavior). First, FCT teaches children an important life skill. Second, children learn that communicative behaviors can produce useful consequences (Carr & Durand, 1985). Third, generalization of the communicative response to other

environments has not been found to be a problem. As shown by Durand and Carr (1991), alternative forms of communication are often maintained by natural contingencies. Specifically, adults who are unfamiliar with a child, don't need to be specially trained to respond positively when the child verbalizes his or her needs (Durand & Carr, 1991).

Precision Teaching bases educational decisions on changes in continuous self- monitored performance frequencies displayed on Standard Celeration Charts (Lindsley, 1992). Since Precision Teaching requires a graphic display, changes in performance can be studied more easily (Kunzelmann, Cohen, Hutten, Martin, & Mingo, 1970; West, Young & Spooner, 1990). It has been found successful, in part, because feedback is immediate, which allows for introduction of new procedures if the initial intervention(s) were unsuccessful (Briere, 1988). Data-based decision making aspect of Precision Teaching also permits one to determine whether an intervention is effective, whether it should be maintained, or whether it should be completely withdrawn and a new intervention tried in its place (Lindsley, 1991, 1992; West et al., 1990; White & Haring, 1980). Precision Teaching is said to improve any curriculum as it combines well with any curricular approach (Lindsley, 1992). In addition, wherever Precision Teaching has been used, it has almost always doubled student learning (Lindsley, 1992).

In addition, research has shown that Precision Teaching can be successfully combined with teaching procedures such as add-a-word spelling (Noland, Sweeney, & McLaughlin, 1994), Direct Instruction (Blackwell, Stookey, & McLaughlin, 1996; Edmondson, Peck, & McLaughlin, 1996; Holz, Peck, McLaughlin, & Stookey, 1995), and reading racetracks (Anthony, Rinaldi, Hern, & McLaughlin, 1997; Rinaldi & McLaughlin, 1996). FCT has also been incorporated successfully with a wide variety of treatment procedures. For example, Fisher, Piazza, Cataldo, Harrel, Jefferson, and Conner (1993) demonstrated that incorporating mild punishment with FCT results in dramatic decreases in challenging behavior. Given that both FCT and Precision Teaching have been easily incorporated with other treatment procedures, positive outcomes should occur when they are used together. Therefore, another purpose of the present case report was to evaluate the utility of FCT and Precision Teaching when used in conjunction to reduce the challenging behavior of a child with autism.

METHOD

Participant and Setting

The participant was "Fred", a 2-year-old male, had previously diagnosed with autism by a licensed clinical psychologist. Fred was referred for the study with the goal of improving his communication skills and reducing his challenging behaviors. These outcomes would be beneficial to Fred's involvement with his peers, teachers and family members. The study was conducted in a preschool center for children, birth to three, with developmental disabilities.

Movement Cycles and Measurements Procedure

The two dependent measures were problem behavior and signing "please." Problem behavior consisted of loud vocalizations, hair pulling, squirming, and attempts to run away. Signing "please" consisted of patting his chest with an open hand. Both prompted and independent signing were plotted. A three step prompt training procedure was used to encourage Fred to sign independently. First, his teacher would say, "If you want this toy, you need to sign please." Next, she would model the sign. Finally, she would physically guide the participant's hands in making the sign.

Fred was a member of a toddler group that meet two days per week. Assessment sessions were conducted each day he attended school. The results of these sessions were recorded. These

data were later transferred to a 6 cycle Standard Celeration Chart (Kunzelmann, Lindsley, 1991, 1992; West et al., 1990). Treatment decisions were then made at the end of each day (i.e., continued use of FCT or the addition of other intervention procedures). The Standard Celeration Chart allowed us to proceed with the treatment with confidence.

Experimental Design and Conditions

An AB design (Kazdin, 1982) was used to evaluate the effects of FCT and Precision Teaching.

BASELINE

Baseline consisted of three, three minute sessions. During the sessions, the participant played in the toy area of the classroom and had access to preferred toys. When Fred reached for a toy, it was removed from reach until a challenging behavior was displayed. When challenging behavior was displayed, Fred was given the toy. Thus, this condition was similar to the functional analysis tangible condition as described by Iwata et al. (1994). This condition was selected for baseline based on the results of a descriptive assessment (Lalli et al., 1992). During baseline, Fred's challenging behavior and signing of "please" were recorded.

Treatment. Following baseline, Fred's teacher was instructed to implement FCT throughout the day; that is, all problem behaviors put on extinction (i.e., if problem behavior occurred, work tasks continued, and he was provided with limited attention from his teacher) and all mands (i.e., the "please" sign) resulted in desired outcomes. To assess treatment success, we observed Fred within a series five minute sessions conducted daily across 3 days. The sessions were conducted using the same treatment contingencies used throughout the day; When Fred indicated that he wanted something, he was verbally prompted to sign please immediately. If he did not sign "please" within 5 seconds of the verbal prompt, gestural and physical prompts were delivered with a 1 second pause between prompts. Fred was given access to the preferred toys contingent upon signing "please." Conversely, when Fred engaged in challenging behavior, preferred items were removed. Challenging behavior and the "please" sign were recorded.

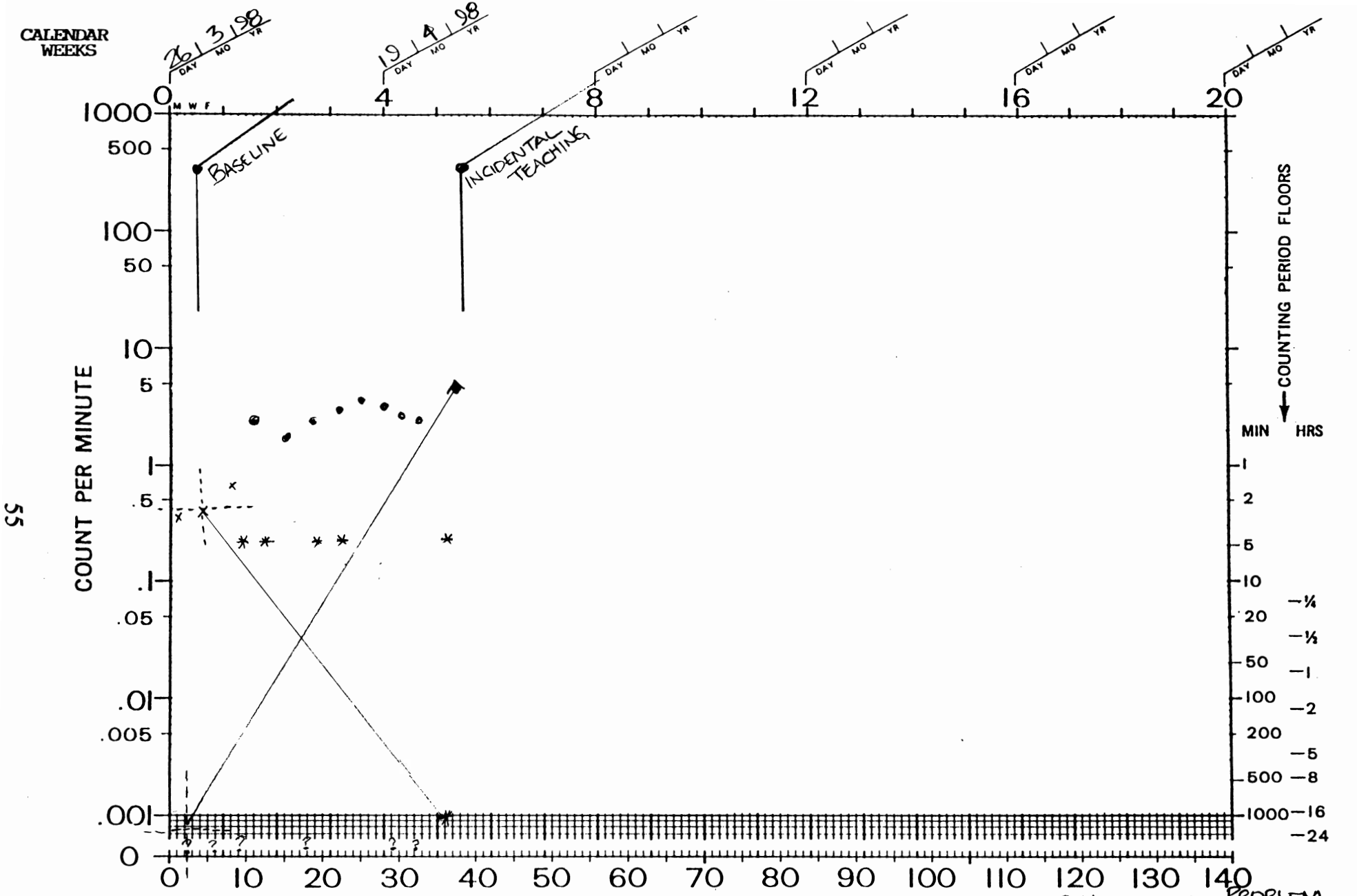
RESULTS AND DISCUSSION

During baseline, Fred engaged in challenging behavior an average of 0.78 (range 0.6 to 1.0) times per minute and never signed "please." When the treatment was implemented, a decrease in problem behavior, from 0.78 times per minute to 0.13 (range 0 to 0.04).

In addition, Fred's rate of signing "please" increased from 0 times per minute to 1.04 (range 0.8-1.4) times per minute. It should be noted that many of the "please" signed displayed by Fred required a physical prompt. However, there was a slight increase in independent signing of "please," from 0.0 times per minute to 0.066 (range 0-0.4).

Monitoring treatment effects using Precision Teaching procedures revealed that functional communication training was effective in reducing problem behavior and increasing communication. Unfortunately, the first author was not able to continue taking data on the participant's use of the "please" sign due to beginning a student teaching experience in another setting. It is likely that the number of independent signs will continue to increase now that Fred has engaged in the behavior independently. In addition, staff at the preschool has been trained on the used of FCT. To further facilitate the generalization of the "please" sign, a letter was sent to Fred's parents to explain the treatment procedure. With practice at home and at school, Fred may continue to generalize the use of the "please" sign to all environments.

Watching the participant act more comfortably around other children and teachers as the data



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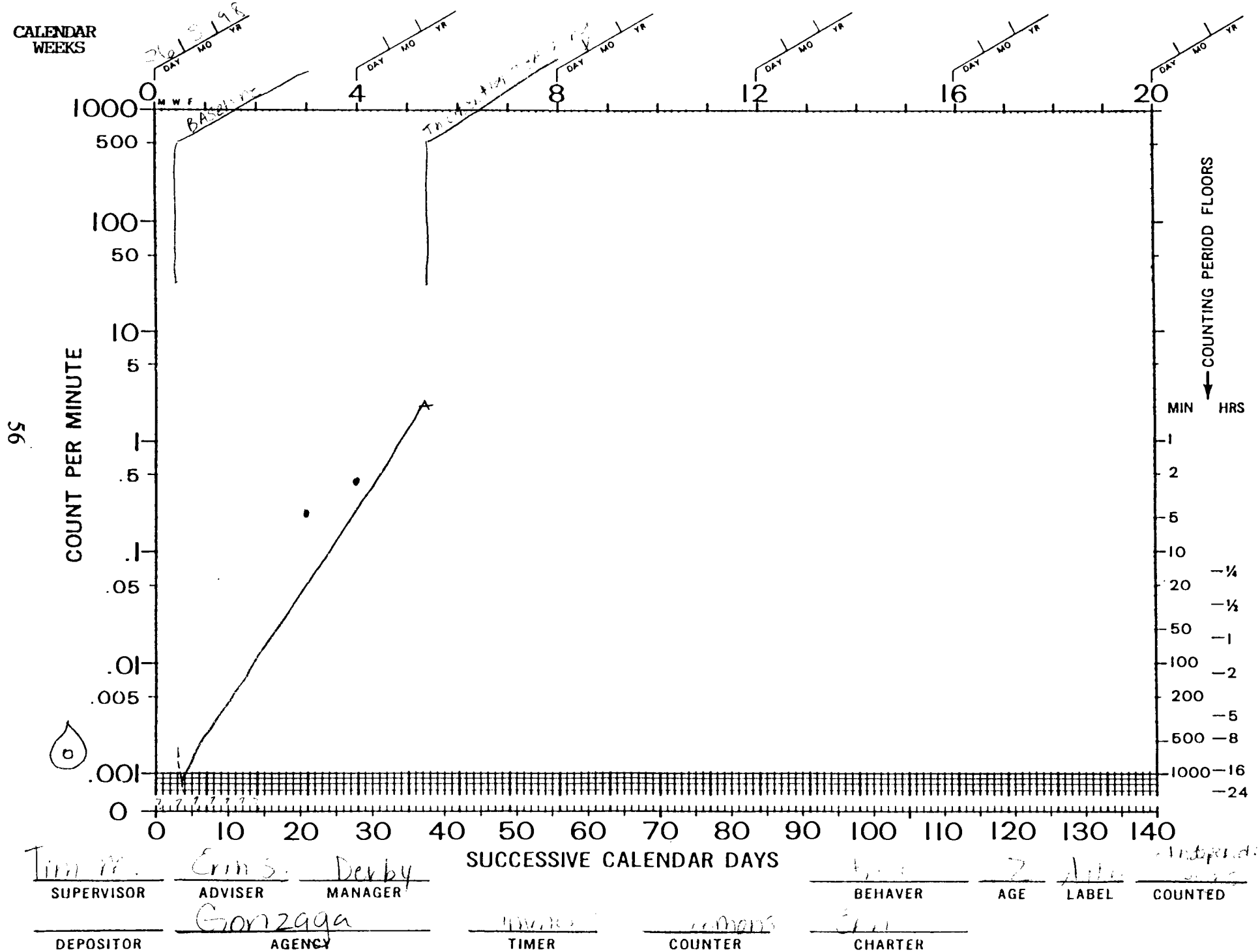
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SUCCESSIVE CALENDAR DAYS
Tim M.
Erin S.
Derby
SUPERVISOR
ADVISER
MANAGER
BEHAVER
AGE
LABEL
COUNTED
Gonzaga
DEPOSITOR
AGENCY
TIMER
COUNTER
CHARTER

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collection progressed was reinforcing to the researchers. Anecdotally, by the end of the investigation Fred was taking part in circle time and small motor activities with the rest of the class. Also, he began to make more and more communicative vocalizations.

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