

THE EFFECTS AND SIDE EFFECTS OF TIMEOUT ON AN AGGRESSIVE NURSERY SCHOOL CHILD

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Summary—Timeout was used to eliminate the aggressive behavior of a nursery school child. Systematic observations of target and non-target behavior were undertaken. The results indicated that as the aggressive behavior was eliminated, the child showed increases in some desirable behaviors. The possible side effects of timeout are discussed.

RECENT years have seen a proliferation of articles attesting to the efficacy of timeout from positive reinforcement in modifying disruptive and undesirable behavior (Burchard and Tyler, 1965; Clark, Rowbury, Baer and Baer, 1973; Haynes and Geddy, 1973; Pendergrass, 1972; White, Nielson and Johnson, 1972). Timeout has been particularly successful in decreasing the frequency of aggressive behavior (Bostow and Bailey, 1969; Hawkins, Peterson, Schwid and Bijou, 1966; Pendergrass, 1972; Tyler and Brown, 1964). However, there is a paucity of data on the effects of timeout on the non-target behavior of the subjects being studied. One investigation with retarded children (Pendergrass, 1972) has reported that timeout not only suppressed high rate misbehavior, but concomitantly caused a decrease in desirable behavior such as speaking and touching. This finding suggests that timeout may sometimes lead to decreases in undesirable behavior at the cost of certain pro-social activities.

The present study explored the effects of timeout on the aggressive behavior of a nursery school child and observed the consequences of this procedure on other behaviors of the child.

METHOD

Subject

Billy, a very active 4½-yr-old from a middle socio-economic status home, had been expelled from a nursery school for his aggressive behavior when he was 3-yr-old. This study took place the next year while he was enrolled in a nursery school for four year olds, and again he was to be expelled for aggressive behavior.

Conditions of observations

The observers were undergraduate university students, only one of whom was at work on each day, except for day three. On this day two observers recorded the subject's behavior so that inter-rater reliability might be computed.

The following behaviors, considered the most important,

were selected for observation: (1) Co-operation—compliant, shares, helpful, obeys rules; (2) Interaction with teachers—asks questions, tells stories, helps with chores, seeks attention; (3) Isolation—plays alone, does not interact with others; (4) Verbal aggression—commands, threatens, teases, verbal conflicts, and (5) Physical aggression—strikes, kicks, destroys others, property, pulls, hits. Recording of behavior was done on a checklist that divided each minute into 15-sec segments. The observer would estimate which behavior was most predominant during a 15-sec interval and record it by means of a number code in the appropriate square. The only exception to this would be if the child actually performed any physical or verbal aggressive act. In this case the appropriate aggressive act would be recorded. If simultaneous verbal and physical aggression were shown only physical aggression would be recorded.

The amount of time during which behavior was recorded each day (approximately 2 hr) varied as a function of the reading period and how early the class was dismissed. To get a true picture, it was therefore decided to plot the desired behavior against the time during which recording took place each day.

It appeared that Billy was the most physically active child in the class and this might be related to some of his aggressive behavior. To determine whether Billy was actually more active and whether the modification program would alter his activity level, all male children were issued Timex activity watches for the duration of the study.

Procedure

After three days of baseline observations, timeout was initiated. The timeout procedure consisted of putting Billy in a chair, until he was quiet for 2 min, each time he performed a physically aggressive act. The chair was in a corner of the classroom in which there were no toys. The rationale for the procedure was explained at the first aggressive act, and subsequently Billy created very little fuss when he was required to sit in the chair.

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RESULTS

Observations

Inter-rater reliability of observations was made by comparing the two observers' checklists of day three by determining in how many cells the recordings were identical. The computed inter-rater reliability was 92%.

Physical and verbal aggression

Figure 1 presents data revealing that physical and verbal aggression decreased considerably during the timeout procedure. During baseline physical aggression

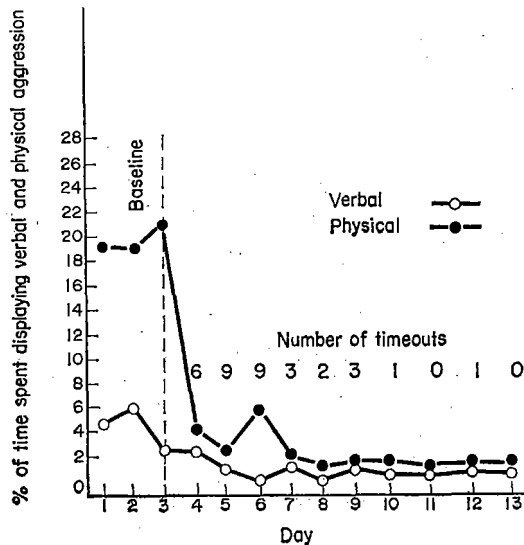


FIG. 1.

was manifested 20% of the time and this decreased to 1.9% during timeout intervention. Verbal aggression also decreased from 3.7% during baseline to 0.53% by day eight.

Activity level

The reading on Billy's watch each day was put over the mean reading of the other boys' watches and this was multiplied by 100. On each day Billy's activity watch registered higher than that of anyone else in the class. As Fig 2 indicates, Billy's average activity level was 142.7% during the baseline period. During the intervention sessions, Billy's average activity level was 152.3%.

Teacher interaction, isolate and co-operative behavior

Figure 3 reveals that Billy spent 6.1% of his time interacting with teachers during the baseline and this dropped to 3.4% during the experimental period.

Figure 3 also reveals that during baseline the subject spent an average of 28.2% of his time in isolate play and 42.2% in co-operative play. During timeout, isolate behavior dropped to an average of 8.2% and co-operative behavior rose to an average of 68.2%.

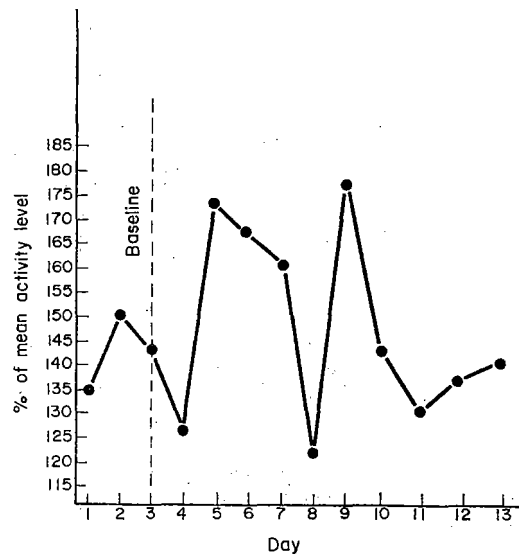


FIG. 2.

DISCUSSION

Clinical observations suggest that high activity levels and aggression often appear hand in hand. The author was pleasantly surprised that Billy's activity level did not change when his aggressive behavior declined. This indicates that his activity was channelled into other socially acceptable outlets when the aggressive avenue was closed to him.

The study supports the notion that occasionally, when a behavior that is disturbing to the environment is eliminated, other deviant behaviors also drop out and pro-social behaviors increase. Specifically, it is interesting to note that, although only physical aggression was followed by timeout, verbal aggression decreased. Furthermore, Billy's constructive interactions with peers increased dramatically.

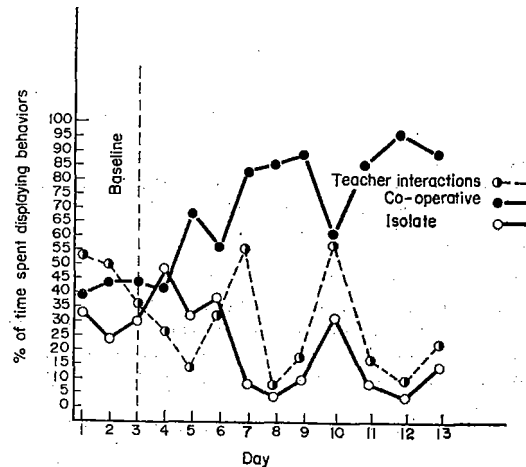


FIG. 3.

In the present study, the difference between these rather encouraging "side effects" with timeout as opposed to those found by Pendergrass (1972) might be related to subject variables. Billy was, in spite of his aggressive behavior, a bright and captivating child with many social and athletic skills. This contrasts with the retarded subjects studied by Pendergrass. Conceivably, the elimination of Billy's aggressive behavior allowed the emergence of more acceptable behaviors, already in his repertoire, which the environment "naturally" rewarded. Subjects who do not have these social skills may well regress when their high rate of undesirable behaviors are eliminated, since they may have no other behaviors with which to get previous rewards. In these cases, desirable behaviors ought to be shaped and made part of the repertoire of the subjects at the same time as undesirable behaviors are being eliminated.

It was not clear why Billy decreased his interactions with the teachers. Unfortunately this behavioral category

did not discriminate between pro-social behavior, such as telling stories and helping with chores, and undesirable attention seeking behavior. The decreased interaction with teachers if due to a reduction of attention seeking behavior would be a positive side effect. However, it is possible that, through association, Billy stopped asking questions, telling stories and helping with chores because the teachers became negative stimuli to be avoided.

Despite the rather encouraging results two problems with the present study require comment. A second baseline period, to see if the experimental manipulations were actually controlling the subject's behavior, was not attempted. As the subject's aggressive behavior attenuated he seemed to be more and more popular and much happier. The teachers in consultation with the experimenter felt it would be in the best interest of Billy and the class not to reverse these trends. In addition, due to time constraints (summer holidays) it was not possible to assess the long term effects of the intervention.

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