

## A Review of Timeout Ribbons

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### Abstract

Researchers and practitioners often employ timeout procedures to manage inappropriate classroom behavior. When implemented inappropriately, however, timeout can result in dangerous situations and have received increased scrutiny (i.e., seclusion). The timeout ribbon procedure can prevent some of the dangerous situations associated with other forms of the punishment procedure. This review examines how researchers have used the timeout ribbon to affect change in the behaviors of school-aged children. A summary of the findings indicates that the timeout ribbon procedure effectively reduced inappropriate behaviors but did not increase compliance. The review provides both implications for practitioners and additional research directions.

Keywords: Timeout ribbon, classroom management, punishment

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Timeout, when used effectively, is a powerful behavior management tool (Turner & Watson, 1999). Timeout is defined as “the withdrawal of the opportunity to earn positive reinforcement or the loss of positive reinforcers for a specified time, contingent upon the occurrence of a behavior; the effect to reduce the future probability of that behavior” (Cooper, Heron, Heward, 2007, p. 357). Thus, timeout has two necessary conditions. First, the current environment must have reinforcing qualities. Second, a removal of those qualities must be less reinforcing than a removal from that environment. In other words, there must be a discrepancy between time-in (i.e. the environment with reinforcement) and timeout (i.e., the environment without reinforcement; Friman & Finney, 2003; Harris, 1985; Marlow, Tingstrom, Olmi, & Edwards, 1997). In early studies, researchers demonstrated timeout by placing an animal on extinction following some behavior, which subsequently decreased that behavior’s probability (Anderson & King, 1974). However, as timeout was applied in more and more settings, variability rather than conformity appeared (Friman & Finney, 2003).

Even with response variability, timeout is now one of the most common disciplinary tactics used with children in the United States (Friman & Finney, 2003). There are three types of timeout: isolation or total removal from a reinforcing environment, exclusion from reinforcement within an environment, and non-exclusionary or reinforcement is stopped (Harris, 1985). Additionally, three types of non-exclusionary timeout include a removal of the reinforcing stimulus (i.e., withholding food or the cessation of music), ignoring the subject (i.e., turning away from the subject), and contingent observation (i.e., the subject must sit out and watch the appropriate behaviors of peers; Harris, 1985). With different variations available, considerations must be made when choosing a timeout procedure.

For a timeout to be effective it must be applied immediately following each occurrence of the target behavior, which is not always possible with isolation and exclusion (Hugenin & Mulick, 1981). Additionally, moving an individual during isolation, exclusion, or contingent observation timeout procedures usually involves physical guidance, which has been shown to reinforce misbehavior (Kern, Delany, Hilt, Bailin, & Elliot, 2002). Recently, the Council of Children with Behavioral Disorders (2009) has released a position statement concerning the use of seclusion and isolation. The considerations include secluding the individual too long (i.e., the loss of a considerable amount of educational time), the potential for abuse, and additional paradoxical effects (i.e., timeout as a positive or negative reinforcer for inappropriate behavior). In summary, timeouts have heightened detrimental effects when used ineffectively by inexperienced people (Harris, 1985).

On the other hand, non-exclusionary timeout procedures do not have the same negative concerns as other timeout techniques. A modified non-exclusionary timeout, the timeout ribbon procedure,

combines contingent observation and the removal of a reinforcing stimulus. The availability of reinforcement is contingent upon the presence of some discriminative stimulus of which reinforcement has been paired. That stimulus is removed contingent upon the appearance of inappropriate or target behaviors and returned after a short period of time.

The timeout ribbon procedure controls for some of the negative side effects of timeout, but also raises additional concerns. The potential risk of abuse and paradoxical effects are reduced. During timeout, the child is not touched or removed from the educational environment. Also, earning a timeout does not allow the child to escape from educational demands; they are expected to continue working. However because the child remains in the educational setting, the environment must be able to maintain higher intensity inappropriate behaviors. After weighing the benefits and costs, the timeout ribbon procedure may be helpful for common occurring lower intensity, higher frequency behaviors (e.g., noncompliance) in educational settings (Ford, Olmi, Edwards, & Tingstrom, 2001).

With the many varieties, implications, and concerns regarding timeout, a critical literature review will lead to a greater understanding of one specific type: the timeout ribbon. Thus, the purpose of this review is to address the question: How has the timeout ribbon or modified ribbon procedure been used to affect change in behaviors of school-aged children? Specific questions include:

1. What timeout ribbon procedures have researchers used?
2. What target behavior outcome measures were used to evaluate the effectiveness of the timeout ribbon procedure?

### Methods

Studies included in this review were located through two steps. First, a computerized search of PsychINFO and ERIC databases was conducted. Descriptors used were timeout, time-out, and classroom. Second, an ancestral search was conducted of articles identified in specified databases.

The computerized search generated 397 articles, five of which met all of the article inclusion criteria located below. An ancestral search of five articles resulted in identification of one additional article meeting criteria. Overall, the literature search process identified six articles (Alberto, Heflin, & Andrews, 2002; Fee, Matson, & Manikam, 1990; Foxx & Shapiro, 1978; Salend & Gordon, 1987; Yeager & McLaughlin, 1994; Yeager & McLaughlin, 1995) published in six different psychology and education journals (Table 1).

For an article to be included, the following had to be met:

1. The article was published in a peer-reviewed journal.
2. The article was an empirical study using group or single subject design.
3. The article included as participants school-aged children (3-18 years old).
4. The article used as a dependent measure behaviors that either interfered with or improved instruction in an educational setting.
5. The article examined a timeout ribbon procedure or a modified timeout ribbon procedure as an intervention.

**Table 1. Timeout Ribbon Studies**

<i>Study</i>	<i>Students</i>	<i>Independent Variables</i>	<i>Dependent Variable</i>	<i>Results</i>
Alberto et al, 2002	Two males aged 10-11	TI: Token delivery FI 5 min for appropriate behavior as long as wristband is present; TO Wristband procedure: 5 min nonexclusionary TO (loss of wristband) for appearance of target behavior; IN behavior during TO: TO extended until 30 seconds of appropriate behavior; Conclusion of completed TO: Wristband returned	Number of IN vocalizations when initiating a task, uninvited approaches of strangers within 3 feet, IN self touches, and/or yells	Behaviors reduced to 0 occurrences for both participants across two settings and maintained at 0 occurrences during maintenance
Fee et al., 1990	59 children ages 4-5 years old	TI: Verbal praise 2 times normal (only for children with their wristbands) TO Wristband: Appearance of target behavior, warning first, if compliance, no TO, if not, 3 min nonexclusionary TO (loss of wristband); IN behavior during TO: Timer is reset and a minute is added; Conclusion of completed TO: Wristband returned	Matson Evaluation of Social Skills with Youngsters (MESSY) Preschool Behavior Questionnaire (PBQ) Six item semantic differential Out-of-seat and talking out of turn (Rated pairs of children (20 minute pre- and post-test) for six consecutive 10 sec intervals)	Treatment group showed significant decreases in both out-of-seat and talking out of turn behaviors and perceived as better group members.
Foxx & Shaprio, 1978	Five males (aged 9-18) with MR	TI: Social and edible reinforcement VI 2.5 min (only for children with their ribbons) TO Ribbon: Appearance of target behavior, 3 min nonexclusionary TO (loss of ribbon); IN behavior during TO: TO extended slightly until misbehavior ceases; Conclusion of completed TO: Ribbon returned	% of 30sec intervals of disruptive behaviors (e.g., Out-of seat, banging objects on table, throwing objects, hitting others, crying, yelling)	IN behaviors intervals reduced from a range of 70%-7% to a range of 10%-1%

**Table 1. (continued)**

<i>Study</i>	<i>Students</i>	<i>Independent Variables</i>	<i>Dependent Variable</i>	<i>Results</i>
Salend & Gordon, 1987	5 males aged 6-9 years; 4 with LD and one with ED and 3 males and 1 female aged 9-10 with LD	TI: Token delivery FI 2.5 min (only for groups with their ribbons) TO Ribbon: Appearance of target behavior within group, 1 min nonexclusionary TO (loss of ribbon); IN behavior during TO: TO extended until 1 min of appropriate group behavior displayed Conclusion of completed TO: Ribbon returned	IN vocalizations per minute	Group reduced IN vocalizations from 1.65 and 3.1 per minute to 0.1 and 0.4 per minute, respectively and low levels maintained during follow-up.
Yeager & McLaughlin, 1994	4 year-old child	TI: Praise (when ribbon was present) TO ribbon procedure: TO for target behavior Additional TI: Chose story to be read	% of compliance	Compliance increased from 7% to 22% of the time
Yeager & McLaughlin, 1995	4 year-old male with Tuberos Sclerosis	TI: edible for each instance of compliance TO happy face: Instance of noncompliance, loss of happy face until next chance for compliance End of TO: Compliance with next request; TO happy face and precision requests: noncompliance, warning 5 seconds, warning, 5 seconds, 4 min TO in TO chair (Any time before TO compliance earned edible) Conclusion of TO: Happy face returned when compliance demonstrated	% of compliance	Compliance increased from 2.2% to 62% of the time.

*Note.* MR = mental retardation, LD = learning disabilities, ED = emotional disturbance, TI = time-in, TO = timeout, VI = variable interval, FI = fixed interval, IN = inappropriate

## Results

### Timeout Ribbon Procedures

Each of the studies reported using a timeout procedure to reduce inappropriate behavior. All of the studies, except Yeager and McLaughlin (1995), did not move the participant while in timeout. Length of timeouts varied across the studies. Timeouts ranged from one minute (Salend & Gordon, 1987), three minutes (Fee et al., 1990; Foxx & Shapiro, 1978), four minutes (Yeager & McLaughlin, 1995), to five minutes (Alberto et al., 2002). The remaining studies either had an experimental phase in which the

timeout ended with the next chance for compliance (Yeager & McLaughlin, 1995) or only specified that the participant was in timeout for a period of time (Yeager & McLaughlin, 1996). Five studies adjusted the length of timeout when inappropriate behaviors occurred or continued during a timeout. Criteria included resetting the time (Salend & Gordon, 1987; Yeager & McLaughlin, 1995), resetting the time and adding one minute (Fee et al., 1990), extending timeout 30 seconds (Alberto et al., 2002) or extending the time an unspecified period (Foxy & Shapiro, 1978). Prior to starting a timeout, two studies (Fee et al., 1990; Yeager & McLaughlin, 1995) allowed for a warning before the loss of the timeout ribbon. In both cases, compliance with the request after the warning continued availability of reinforcement.

A characteristic similar across studies was the creation of a reinforcement rich time-in (i.e. an increased amount of supposed reinforcers delivered more frequently than normal). Two studies delivered reinforcement on a variable interval (VI) of either 2.5 minutes (Foxy & Shapiro, 1978) or 5 minutes (Alberto et al., 2002). Salend and Gordon (1987) delivered reinforcement on a fixed interval (FI) of 2 minutes, while Yeager & McLaughlin (1995) provided continuous reinforcement (CRF) the target behavior. Two studies did not specify their reinforcement procedures, but one (Fee et al., 1990) did state that reinforcement occurred twice as often. The reinforcers used included social praise (Fee et al., 1990), tokens (Alberto et al., 2002; Salend & Gordon, 1987) and edibles (Foxy & Shapiro, 1978; Yeager & McLaughlin, 1995). Within each of the studies some type of discriminative stimulus was used to signal the availability of reinforcement. Three of the studies (Foxy & Shapiro, 1978; Salend & Gordon, 1987; Yeager & McLaughlin, 1994) administered a ribbon, two (Alberto et al., 2002; Fee et al., 1990) used a wristband and one (Yeager & McLaughlin, 1995) used a ribbon and moved to a happy card. In all studies, reinforcement was available only when the participant's or group's discriminative stimulus (i.e., ribbon, wristband, or happy face) was present.

### **Target Behavior Outcome Measures and Short/Long Term Effects**

All six studies reported dependent measures that either interfered with or improved educational situations. Four of the studies (Alberto et al., 2002; Fee et al., 1990; Foxy & Shapiro, 1978; Salend & Gordon, 1987) targeted decreasing inappropriate behaviors. Behaviors included yelling or inappropriate vocalizations (Alberto et al., 2002; Fee et al., 1990; Foxy & Shapiro, 1978; Salend & Gordon, 1987), out-of-seat behaviors (Fee et al., 1990; Foxy & Shapiro, 1978), inappropriate touching or hitting of others, self, or property (Alberto et al., 2002; Foxy & Shapiro, 1978), and uninvited approach of strangers (Alberto et al., 2002). Two studies (Yeager & McLaughlin, 1994; Yeager & McLaughlin, 1995) targeted increasing an appropriate behavior; namely compliance.

Additional dependent measures included teacher's perceptions of children's behavior recorded on two standardized tests: Matson Evaluation of Social Skills with Youngsters (MESSY) and Preschool Behavior Questionnaire (PBQ; Fee et al., 1990), a six item semantic differential (Fee et al., 1990), and a teacher questionnaire regarding acceptability of the timeout ribbon procedure (Fee et al., 1990; Foxy & Shapiro, 1978).

Findings from the six studies showed differing results. Researchers who targeted reducing inappropriate behaviors reported marked decreases. Fee et al. (1990) found significant decreases in talking out turn and out-of-seat behaviors as compared to the control group. Alberto et al. (2002) disclosed decreases in all inappropriate behaviors to zero across two participants and four settings. Salend and Gordon (1987) saw a reduction from 1.5-3.5 inappropriate vocalizations per group to under 0.5 inappropriate vocalizations per group. Foxy and Shapiro (1978) demonstrated a decrease to roughly zero intervals of disruptive behaviors across five participants.

When the aim was to improve appropriate behaviors, the outcomes suggested less effective results. Yeager and McLaughlin (1994) showed an increase from a mean of 4.5% intervals of compliance

in baseline to a mean of 27% intervals of compliance during treatments. Yeager and McLaughlin (1995) also demonstrated a greater increase of compliance intervals (2.2% in baseline to 54.2% during timeout ribbon phase to 74.6% during timeout ribbon/precision request phase).

Additional dependent measures showed changes in teachers' perceptions and acceptability of approaches. Fee et al. (1990) found that children within the timeout ribbon group were perceived as better group members, took turns more frequently, and stayed in their seat. Additionally, the timeout ribbon procedure was considered highly acceptable (Fee et al., 1990; Foxx & Shapiro, 1978), less restrictive than other methods for decreasing behaviors (Foxx & Shapiro, 1978), and a preferable choice if equally effective with exclusionary timeout (Foxx & Shapiro, 1978).

Three studies (Alberto et al., 2002; Foxx & Shapiro, 1978; Salend & Gordon, 1987) also had maintenance measures. Alberto et al. (2002) made three measurements 14 days after completion to find zero occurrences of targeted inappropriate behavior. They also thinned the token schedule from FI5 to FI10 minutes. Foxx and Shapiro (1978) took one measurement 21 days after completion to find the same low levels of disruptive behavior. Salend and Gordon (1986) made three measurements after 14, 21, and 28 days following the study's completion and found the same low levels of inappropriate vocalizations (<0.5 per minute).

## Discussion

### Timeout Ribbon Procedures

Extending from Foxx & Shapiro (1978), the reviewed studies reported a basic structure for the timeout ribbon procedure. Researchers established a clear discriminative stimulus with the students, removed that stimulus (and all access to reinforcement) when students displayed the targeted inappropriate behavior and returned that stimulus after a set amount of time. While some specifics (e.g., length of discriminative stimulus removal) varied across the six studies one aspect held consistent: the creation of a reinforcement rich time-in. Necessary for the effective use of all timeout, a reinforcement-rich time-in increases the reinforcing properties of the reinforcers denied through timeout (Friman & Finney, 2003). None of the reviewed studies reported varying the type of reinforcement used; just that reinforcement was delivered frequently. Thus, students' behaviors effectively differentially reinforced teacher's delivery of reinforcement, both in type and schedule. Should inappropriate behavior fail to show a decrease, teachers can examine how time-in was created (i.e., provided consequences, wording of praise statements, rewards associated with a token system, etc.) and the density of reinforcement adjusting accordingly. If students do show a marked decrease in the targeted inappropriate behavior, the teacher can consider thinning the schedule to promote generalization (Stokes & Baer, 1977).

While satiation might raise concerns, teachers often present only minimal amounts of reinforcing contingences (Sutherland, Wehby, & Yoder, 2002). Educators often provide little positive attention for appropriate behavior, whether academic or social, that continues to decrease as students advance through their academic career (White, 1975). Additionally, low intensity but high frequency inappropriate student behaviors such as non-compliance, the types of behavior suited for the timeout ribbon procedure, often frustrate teachers into over-reaction increasing the likelihood of managing student behavior with coercion (Sidman, 1989). The time-out ribbon procedure forces teachers to provide potential reinforcers at a rate higher than normally observed, while also providing an intervention that may replace ineffective and damaging coercive contingencies.

### Target Behavior Outcome Measures

Four of the studies (Alberto et al., 2002; Fee et al., 1990; Foxx & Shapiro, 1978; Salend & Gordon, 1987) reported a decrease in inappropriate behaviors with two (Yeager & McLaughlin, 1994;



Yeager & McLaughlin, 1995) targeting increases in compliance. As timeout is a behavior reduction technique (Cooper et al., 2007), researchers reported effective results when used as such. However, fewer gains were noted when researchers examined subsequent increases in appropriate behavior. These differences suggest the nature of timeout and punishment techniques in general. The individual learns what not to do, rather than what to do. However, the slight gains to appropriate behavior noted by Yeager and McLaughlin in 1994 and 1995 might be the result of providing reinforcement for appropriate, alternative behaviors demonstrating the potential versatility of the timeout ribbon procedure. It might be surmised that when a teacher focuses more of the necessary reinforcing contingencies on certain appropriate behaviors, an associated increase in appropriate alternative behaviors occurs between ribbon removals.

Results from the current, yet limited, literature base do display generality across the domains suggested by Stokes and Baer (1977). Researchers measured and noted effective results for a wide range of behaviors (i.e., inappropriate approaches and vocalizations, out-of-seat behavior, etc.) across students with different exceptionalities (e.g., learning disabilities, mental retardation). Additionally, three of the studies (Alberto et al., 2002; Foxx & Shapiro, 1978; Salend & Gordon, 1987) reported follow-up measures that demonstrated positive outcomes. Considering individuals maintain behaviors in their repertoire post-intervention, successfully demonstrating the continued effects speaks to the time-in/timeout nature of the ribbon procedure. To maintain a generalized effect, behavior reduction techniques such as the timeout ribbon must be used consistently on each instance of targeted inappropriate behavior and involve a systematic coordinated fading during both time-in and timeout.

### Implications for Practitioners

Posing clear advantages and disadvantages, the timeout ribbon procedure has applications for teachers and clinicians working with school-aged children. Those who choose to implement a timeout procedure should use a defined, consistent, effective approach to target a well defined set of behaviors. Advantageously, the timeout ribbon procedure has certain set characteristics (e.g., a reinforcement rich time-in, a conspicuous discriminative stimulus, targeting low-intensity inappropriate behaviors) and empirical support. These aspects guide the practitioner during implementation, tethering them to the procedure, but also provide the ability to modify some of the “looks” of the procedure. For example, a teacher can employ different discriminative stimuli, how and when to deliver preferred consequences as potential reinforcers, and what low-intensity inappropriate behaviors to target. Teachers can also rely on another clear advantage; the student remains in the educational or clinical setting during the timeout. Students have the opportunity to increase their exposure to instructional situations as compared to both exclusion or isolation forms of timeout. Finally, the procedure itself demands a positive educational or clinical environment (i.e. reinforcement rich time-in). This not only sets the stage for an effective non-exclusionary timeout, but also for effective instruction, learning, and student experiences.

A clear disadvantage of the timeout ribbon procedure involves the ability of the procedure to deal with the escalation of student inappropriate behaviors. Some students, such as those with emotional or behavioral disorders, may have a history of behaviors that, when displayed, no longer allow them to safely remain in the current educational setting (Kauffman & Wong, 1991). Behaviors such as physical damage to self, property, or others, place an undue stress on many educational environments. Planning ahead, teachers can use the timeout ribbon procedure as an initial intervention for low intensity/ high frequency inappropriate behaviors. Then, as necessary and following appropriate guidelines (CCBD, 2010), implement additional timeouts (i.e., exclusion or seclusion) as a back-up intervention targeting the more dangerous behaviors only (Foxx & Shapiro, 1978).

### Future Research Directions

One specific area for researchers to explore involves the amount of time students remain in timeout or in the current case without a ribbon. The current body of timeout ribbon literature suggests a range from one to five minutes, however many students remain in timeout for longer periods (CCBD, 2010). Future researchers can experimentally manipulate timeout duration with the goal of determining the minimal amount necessary to garner effective results.

Without providing a consensus, each of the studies reported a different approach to resetting or adding time to a timeout. Continued prompting or adding additional time can create adverse situations in which some students may increase the intensity and frequency of inappropriate behavior past the point of remaining in the educational setting during a non-exclusionary timeout (Gunter, Denny, Jack & Shores, 1993; Gunter, Denny, Shores, & Reed, 1994). Future research can compare the different methods to determine effectiveness.

Other avenues for research include additional examinations of the timeout ribbon procedures in a variety of settings and populations. Researchers can also vary the schedule of reinforcement (both contingent and non-contingent) and/or the discriminative stimuli used to signal time-in to examine the effect of timeout. Each of the replications/modifications builds a greater case of the power, utility, and generality of the timeout ribbon procedure.

### Conclusions

Often misused, timeout still plays a role in the management of student inappropriate behaviors. Versions of timeout, even when applied appropriately, can create situations that increase the likelihood of adverse effects. Timeout ribbons present a balance. The proper use of the procedure forces a teacher to identify and provide reinforcing contingencies for all students; which may decrease escape motivated behaviors while also increasing the effect of ribbon removal (i.e., non-exclusionary timeout) on common inappropriate classroom behaviors such as non-compliance. Teachers understanding that no matter the effect students do not specifically learn what to do rather only what not to do can implement the timeout ribbon in its intended situations accompanied by other teaching strategies.

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\* Denotes studies included in the review.

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