

*SIMPLIFIED HABIT REVERSAL TREATMENT FOR
CHRONIC HAIR PULLING IN THREE ADOLESCENTS:
A CLINICAL REPLICATION WITH
DIRECT OBSERVATION*

JOHN T. RAPP, RAYMOND G. MILTENBERGER, ETHAN S. LONG,
AMY J. ELLIOTT, AND VICKI A. LUMLEY

NORTH DAKOTA STATE UNIVERSITY

Three developmentally normal adolescents with chronic hair pulling were treated with a simplified habit reversal procedure consisting of awareness training, competing response training, and social support. Treatment resulted in an immediate reduction to near-zero levels of hair pulling, with one to three booster sessions required to maintain these levels. The results were maintained from 18 to 27 weeks posttreatment, although 1 participant reported difficulty at follow-up. The effectiveness of simplified habit reversal and suggestions for future research are discussed.

DESCRIPTORS: habit reversal, awareness training, competing response training, social support, hair pulling, trichotillomania

Research on chronic hair pulling has shown that habit reversal (HR) is among the most effective self-management treatments for young adults (Friman, Finney, & Christophersen, 1984). However, there are few reports of successful HR treatment for hair pulling in adolescents. Due to the paucity of research on HR treatment of hair pulling in adolescents, and the fact that children in this age group may have particular difficulty successfully implementing self-management treatments such as HR, further research in this area appears to be warranted. The purpose of this study was to evaluate a simplified version of HR with 3 12-year-old hair pullers. We evaluated just three components of the HR package—awareness training, competing response training, and social support—based upon research that has demonstrated the effectiveness of these components in the treatment of other childhood disorders (Woods & Miltenberger, 1996).

Address correspondence to Raymond G. Miltenberger, Department of Psychology, North Dakota State University, Fargo, North Dakota 58105.

METHOD

Participants

Andy, Eddie, and Katy, each 12 years of age, had engaged in hair pulling for a period of time ranging from 14 months (Andy and Katy) to 9 years (Eddie). Andy and Eddie had been diagnosed with attention deficit hyperactivity disorder and Katy had been diagnosed with depression. Andy pulled hair from his eyebrows, eyelashes, and scalp. Hair pulling by both Eddie and Katy produced noticeable hair loss only to the scalp. Interviews with parents revealed that Andy and Katy pulled hair exclusively while he or she was alone, but Eddie engaged in the behavior in other settings as well (e.g., home, school, baseball games).

Target Behavior and Data Collection

Hair pulling was defined as touching the fingers to the scalp, eyebrow, or eyelashes for all 3 participants. A camcorder was used to collect data in the participants' homes while the participant was alone or talking to a parent (Eddie). Videotaped observations took place during both the afternoon and the evening, and the number of 10-min sessions

conducted during each observation was predetermined (range, 3 to 12 sessions). Each 10-min session was scored for the occurrence or nonoccurrence of hair pulling on a second-by-second basis to produce a percentage duration of hair pulling. Two raters independently scored 30% of the videotaped assessment sessions using the same second-by-second recording method. Percentage of agreement on the occurrence and nonoccurrence of the behavior was calculated for each of the 600 s of observation in a session. Mean agreement for Andy's, Eddie's, and Katy's hair pulling was 99%. Indirect assessment of hair regrowth was obtained using a camcorder for Andy and a 35-mm camera for Katy. Eddie's hair loss was not detectable by video or photographic assessment. Four graduate students (independent of the authors) in clinical psychology and three professors viewed photos and videos from baseline and treatment phases and then completed a four-item questionnaire to judge the social validity of treatment outcome. Each item (e.g., "How natural does this person's hair appear to you?") was rated on a scale from 1 (*not at all*) to 7 (*extremely*). This questionnaire can be obtained from the second author.

Procedure

We used a nonconcurrent multiple baseline across participants design to evaluate simplified habit reversal (SHR), which consisted of awareness training, competing response training, and social support. During awareness training, the participant was taught to detect every instance of hair pulling by describing what hair felt like between his or her fingers and then repeatedly simulating the behavior without actually pulling out hair. A researcher exerted manual resistance to the participant's arm while hair pulling was simulated 8 to 10 times to accentuate the muscles the participant used to pull hair. With competing response training,

the participant helped to select three to four behaviors that were incompatible with hair pulling and then was encouraged to engage in one of these behaviors (e.g., folding arms, sitting on hands) each time a hair pull or an urge to pull was detected. During training, the child simulated hair pulling and engaged in a competing response for 1 min. This was repeated 12 to 15 times. For social support, we instructed the parents to prompt their child to use a competing response when necessary, to provide praise (e.g., "Great job for sitting on your hands") for using a competing response in the habit-prone situation, and to provide praise (e.g., "Your hair is looking good") for the absence of hair pulling and for noticeable hair regrowth. Individual 30-min booster sessions were conducted to review the SHR components with the participant and parents when an elevation in the data was noted. For Katy, booster sessions were implemented when she reported difficulty using a competing response consistently. We individualized the booster sessions to address her difficulties.

RESULTS AND DISCUSSION

Substantial reductions in hair pulling were noted for all 3 participants during the study (see Figure 1); however, the number of booster sessions required to maintain these reductions varied. For Andy and Katy, SHR treatment produced immediate reductions in hair pulling that were maintained for 85 and 50 days, respectively, before a booster session was needed. In contrast, Eddie needed a booster session after just 14 days and later needed two more to suppress hair pulling. After just one booster session with Andy, a near-zero level of hair pulling was maintained for 26 weeks. This level was confirmed by his parents' observation and videotapes of hair regrowth. Similarly, each data-driven booster session provided to Eddie produced a return to a near-zero level

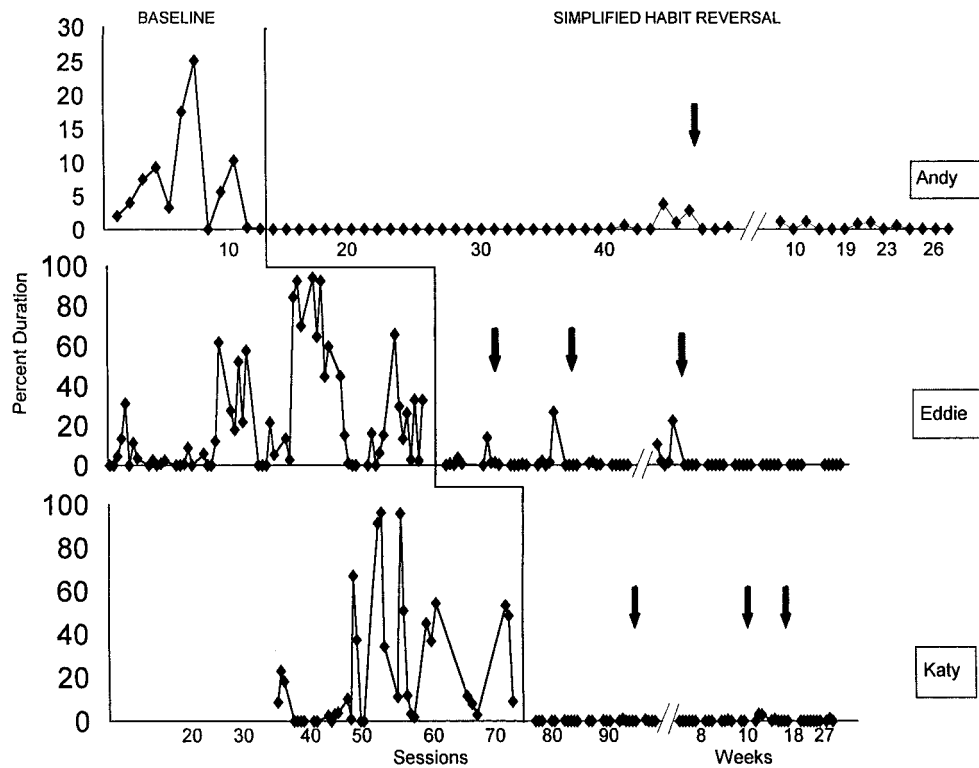


Figure 1. Percentage duration of hair pulling exhibited by Andy (top panel), Eddie (middle panel), and Katy (lower panel) across days. Arrows indicate booster sessions.

that was ultimately maintained for 27 weeks. The absence of hair pulling by Eddie was verified by his parents and teacher. Although Katy's hair pulling was greatly reduced with treatment, we implemented three booster sessions when she reported difficulty resisting the urge to pull hair. By 27 weeks post-treatment, Katy indicated that she was no longer using a competing response when she detected a hair pull. At her request, we dis-

continued assessment and treatment sessions.

Statistical analysis with paired-sample *t* tests (see Table 1) indicated that judges rated posttreatment videos (Andy at Day 65) and photographs (Katy at Day 77) of hair to be significantly more normal and natural in appearance than pretreatment samples.

SHR produced immediate reductions in hair pulling for 3 adolescents following just

Table 1
Mean Social Validity Ratings for Hair Appearance for Andy and Katy

Question (abbreviated)	Andy		Katy		
	Baseline	Treatment	Baseline	Treatment	Follow-up
How normal appearance?	3.85	*5.57	2.24	*5.72	*4.71
How natural hair?	5.71	6.29	1.29	*4.86	*3.86
Person has problem?	4.00	*5.71	1.57	*5.71	*4.29
How natural eyebrow/lashes?	2.57	*5.57			

* Denotes a significant difference from baseline at $p < .05$.

one session. In addition, the timely application of data-driven booster sessions preserved these reductions for each participant. The reductions in hair pulling produced with SHR in this study are consistent with reductions obtained using SHR to treat other childhood habit disorders (Woods & Miltenberger, 1996). A potential limitation of the study was the implementation of SHR for Andy after a baseline data point at zero. However, the reductions observed in hair pulling for Eddie and Katy following SHR suggest that the treatment was responsible for the behavior change. Furthermore, the decrease in Andy's hair pulling following SHR was maintained for over 6 months. Another limitation was that consumer satisfaction ratings of treatment were not obtained in this study. However, the components used in this investigation had received high ratings in previous investigations (e.g., Woods, Miltenberger, & Lumley, 1996). One final limitation was Katy's report that she had be-

gun to pull her hair again and was failing to use a competing response. Future research should investigate the factors that contribute to compliance with treatment and the relationship between treatment compliance and treatment outcome. In addition, subsequent investigations should include peer evaluation measures of hair pulling and baldness.

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