

# A comparison of relaxation training and syntax stimulation for chronic nonfluent aphasia

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## Abstract

This study examined the effects of relaxation training and syntax stimulation on the spoken language abilities of a 59-year-old male with chronic, nonfluent aphasia of moderate severity. Relaxation training consisted of progressive muscle relaxation (PMR) and guided imagery (GI), whereas the syntax stimulation was a modified version of the Helm Elicited Program for Syntax Stimulation (HELPSS) [(1981). *Helm Elicited Language Program for Syntax Stimulation*. Austin, TX: Pro-Ed.]. These treatments were applied in the context of a single-subject alternating treatments plus baseline design. Results indicated that although both treatments produced improvements in spoken language, syntax stimulation was associated with larger improvements, particularly in terms of the proportions of grammatical utterances, correct information units (CIUs), and successful utterances produced by the participant. Analysis of treatment order, however, indicated that the participant's best performances of the syntax treatment and of the probe tasks occurred when relaxation training preceded syntax stimulation. These findings suggest that the simplicity and psychological benefits of relaxation training make it a complementary component to traditional linguistic programs for aphasia. Educational objectives: (1) The reader will understand how psychological responses to stress may affect the language processing abilities of adults with aphasia. (2) The reader will be able to describe how relaxation training complements a traditional language treatment approach for remediating spoken language abilities of adults with chronic nonfluent aphasia. © 2001 Elsevier Science Inc. All rights reserved.

*Keywords:* Relaxation training; Syntax stimulation; Nonfluent aphasia; Treatment

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Recently, increased attention has been given to the description of the psychological and psychosocial effects of aphasia (Gainotti, 1997; Herrmann, 1997; Herrmann & Wallesch, 1989; Le Dorze & Brassard, 1995; Sapir & Aronson, 1990; Servaes, Draper, Conroy, & Bowring, 1999). That is, in addition to their communication problems, patients with aphasia have been found to experience depression, anger, frustration, anxiety, social isolation, and family tension and conflict, as well as a variety of other psychological, social, and professional stresses. Importantly, these psychological factors may influence the rate and amount of recovery made by patients with aphasia (Robinson & Benson, 1981; Sapir & Aronson, 1990). For example, depression and other emotional reactions, and the inability to express these emotions may negatively affect the desire of the aphasic patient to communicate and interact with others. Furthermore, emotional disturbances have been found to interfere with the language formulation and comprehension abilities not only of other patient populations, such as adults with Parkinson's disease, but also adults with no brain damage (Bolla-Wilson, Robinson, Starkstein, Boston, & Price, 1989; Christenfeld & Creager, 1996; Christensen, Griffiths, MacKinnon, & Jacomb, 1997; Poewe & Luginger, 1999). Initial findings suggest that stress may place an additional burden upon the already fragile language skills of patients with aphasia (Heeschen, Ryalls, & Hagoort, 1988).

Consequently, aphasia assessments and treatments have begun to evolve from an exclusive focus on linguistic abilities to include the psychosocial reintegration and the psychotherapeutic care of patients with aphasia and their families. In terms of assessment, tools such as the Visual Mood Analogue Scales (Stern, 1998) and the Psychological Well Being Scale (Hoen, Thelander, & Worsley, 1997) have been developed or adapted to document the emotional status and general well-being of aphasic patients. Regarding treatment, approaches such as counseling the patient with aphasia (Cunningham, 1998; Ireland & Wotton, 1996), providing cotherapy to the patient and his or her spouse (Lyon, 1998; Stiell & Gailey, 1995), and training community communication partners (Lyon et al., 1997) have been utilized to address the chronic emotional and social consequences of living with aphasia. Relaxation training is another treatment method that has been used to reduce frustration, anxiety, and general stress factors in both non-brain-damaged and brain-damaged adults (Poppen, 1988; Rankin, Gilner, Gfeller, & Katz, 1993; Rimm & Masters, 1974; Yesavage, 1984). Relaxation training also has been shown to improve memory functioning in the elderly (Yesavage, 1984; Yesavage & Jacob, 1984), public speaking abilities of college students (Mandeville, 1991), and memory, behavior, and verbal fluency in adults with mild to moderate dementia (Snyder & Olson, 1996; Suhr, Anderson, & Tranel, 1999). In terms of communication disorders, relaxation training has been used to reduce anxiety, stress, and other emotional difficulties in individuals with speech fluency (Azrin, Nunn, & Frantz, 1979; Hasbrouck & Lowry, 1989) and voice problems (Andrews, Warner, & Stewart, 1986; Mueller & Larson, 1992). Despite the prevalence of such problems in adults with aphasia,

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