Reliability and Standardization in the Assessment of Self-Reported Headache Pain

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Accepted March 23, 1979

The efficacy of a treatment intervention for head pain is typically evaluated by self-reported data. Self-monitoring schedules used to collect these data vary extensively across studies. The present article reviews conceptual and methodological problems with these self-report inventories. In addition, the most promising procedure was implemented in a study designed to measure the reliability of self-reported headache pain levels. One-hundred twenty-four college students self-monitored headache pain over an 8-week period. Three objective procedures were used to detect inaccurate recording. Subjects were also asked, in a post-experimental questionnaire, to subjectively rate the degree to which they complied with the experimenters' instructions regarding the self-monitoring procedures. Forty percent of the subjects were found to be noncompliant based on the detection techniques. However, responses to the postexperimental questionnaire indicated this to be a conservative estimation of noncompliance. There was no consistent difference between the postexperimental questionnaire for the subjects detected and those not detected. Results are discussed with relation to the need for researchers to adopt a standard methodology for (1) measuring self-reported headache pain and (2) reporting reliability data.

KEY WORDS: headache pain; self-monitoring; headache inventories.

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INTRODUCTION

The utilization of behavioral techniques for the treatment of headaches is widely accepted (Adams, Feuerstein, & Fowler, 1979; Bakal, 1975; Blumenthal & Fuchs, 1961; Fahrion, 1978; Fowler, 1975). Studies demonstrating the efficacy of these treatments typically rely on three types of data: physiological measures, medication intake, and self-reported headache characteristics (e.g., pain intensity, accompanying symptoms). Authors have addressed problems related to reliability estimates for physiological measures (e.g., Epstein, Abel, Collins, Parker, & Cinciripini, 1978; Harper & Steger, 1978; Philips, 1978), medication intake (Epstein & Abel, 1977; Epstein, Hersen, & Hemphill, 1974), and self-reported headache symptomatology (Thompson & Collins, 1979). However, reliability estimates for self-reported pain levels are currently nonexistent. This information is needed because self-reported pain levels are the most widely used criterion in gauging a treatment's effectiveness. In addition, the procedures utilized in the collection of self-report data vary substantially across studies and some techniques may result in unreliable headache information.

Self-report measures have included verbal statements of general improvement (Lutker, 1971); unspecified ratings of frequency, intensity, and/or duration of headaches (Feuerstein & Adams, 1977; Friar & Beatty, 1976; Gainer, 1978; McKenzie, Ehrisman, Montgomery, & Barnes, 1974; Medina, Diamond, & Franklin, 1976; Mitchell, 1971; Montgomery & Ehrisman, 1976; Tasto & Hinkle, 1973; Wickramasekera, 1972, 1973a,b); ratings of frequency, intensity, and/or duration of headache pain made at the time of each headache occurrence (Mitch, McGrady, & Iannone, 1976; Mitchell & Mitchell, 1971; Mitchell & White, 1977); daily ratings of frequency, intensity, and/or duration of each headache at the end of the day (Benson, Klemchuk, & Graham, 1974; Chesney & Shelton, 1976; Feuerstein, Adams, & Beiman, 1976; Johnson & Turin, 1975; Sargent, Walters, & Green, 1973; Turin & Johnson, 1976); daily ratings of the most intense headache during the past 24 hr (Sargent, Green, & Walters, 1972, 1973a); and ratings of headache intensity every 4 hr (Epstein & Abel, 1977), every 2 hr (Haynes, Griffin, Mooney, & Parise, 1975), and every hour (Andreychuk & Skrivel, 1975; Budzynski, Stoyva, Adler, & Mullaney, 1973; Cox, Freundlich, & Meyer, 1975; Epstein et al., 1974; Hutchings & Reinking, 1976; Philips, 1977; Reeves, 1976).

Scales used to rate pain intensity levels also vary from study to study and include 100-point scales (Chesney & Shelton, 1976), 10-point scales (Friar & Beatty, 1976; Haynes et al., 1975; Mitch et al., 1976; Mitchell & Mitchell, 1971), 5-point scales (Bakal & Kaganov, 1976; Budzynski et al., 1970, 1973; Gainer, 1978; Sargent, Green, & Walters, 1973a), and 3-point scales (Sargent, Walters, & Green, 1973b).

Thus a perusal of recent studies suggests an extreme variability in the types of self-monitoring procedures used by headache researchers. It would appear