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Stress and Coping Factors in the Epidemiology of Substance Use

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1. INTRODUCTION

The purpose of this chapter is to provide a systematic review of the role of stress and coping factors in substance use. In recent years, accumulating evidence from epidemiological studies has shown relationships between life stressors and substance use for each of the major phases of use: initiation, maintenance, and relapse. This research extends a line of investigation beginning with the tension reduction model of alcohol use (Conger, 1956; Cappell and Herman, 1972) and encompasses new studies of stress-related predictors of cigarette smoking, tranquilizers, and opiate use. Here I consider findings from field studies that provide evidence of stress–substance use relationships for each of the three phases. After detailed review of the field evidence, a final section discusses implications for theoretical models of substance use and abuse.

This chapter considers epidemiological research, studying factors that relate to substance use behavior as it occurs in the natural environment of the respondents. The question addressed is whether life stressors are consistently and causally related to higher levels of tobacco, alcohol, and opiate use. Findings from animal models and laboratory experiments with human subjects have shown evidence that stress affects substance use in several paradigms (e.g., Abrams, 1983; Alexander and Hadaway, 1982; Hull and Van Treuren, 1986; Leventhal and Cleary, 1980). From human studies, it is known that many persons try cigarettes and alcohol but relatively few become regular or heavy users (e.g., Cleary et al., 1988). Among regular smokers it is widely perceived that cigarette smoking provides stress-reducing functions (U.S.D.H.H.S., 1988), and similar expectancies about alcohol use have been found both among adolescents (Brown et al., 1980; Christiansen et al., 1982) and among adults (Cahalan et al., 1969; Deardorff et al., 1975; Farber et al., 1980; McCarty and Kaye, 1984). If sub-

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stance use does provide affect-regulation functions for a significant proportion of users, then linkages between stress and substance use should be observed in epidemiological research. Thus, I address the evidence on stress–substance use relationships to determine whether there are notable commonalities in predictive patterns across different stages and types of substance use.

This chapter focuses on the proposition that substance use increases under stress because it is perceived by the user to have an affect-regulation function. Substance use is a multifactorial process: It may be promoted by social pressure or social modeling cues (e.g., Biglan and Lichtenstein, 1984); long-term dependence may be maintained by avoidance of physical withdrawal symptoms (Shiffman, 1979; Jaffe, 1980); and learning processes may be involved in stimuli associated with drug use (Pomerleau, 1981; Siegel, 1979). I do not aim to minimize the importance of these processes in substance use. Rather, the stress-related aspects of drug use seem to present an additional burden for the dependent user, and understanding these aspects may improve understanding of substance use initiation and relapse (Labouvie, 1986b; Wills and Shiffman, 1985).

Stress

Stress originates with demands from the environment and culminates in changes in subjective well-being. Perceived stress is presumed to depend on an appraisal in which demands from the environment are perceived by an individual as exceeding the available coping resources (Cohen et al., 1983; Lazarus and Folkman, 1984). Life stress may be acute, such as a sudden illness in the family, or may represent chronic life strains that are not quickly resolved and persist over considerable periods of time (Pearlin et al., 1981). At the physiological level, acute stress produces increases in sympathetic nervous system arousal, and chronic stress is linked to changes in endocrine systems and reactivity to challenge (Baum et al., 1982; Grunberg and Baum, 1985). Perceived stress can cause symptoms of general anxiety, tension, or depression; and subjective well-being is influenced independently by increased negative affect and decreased positive affect (Diener, 1984; Wills and Shiffman, 1985). In literature discussed here, objective measures of stress have usually been based on checklists of major life events or chronic life strains, and subjective distress has been indexed with questionnaire measures of anxiety, depression, or general psychological symptomatology. This chapter is not critical of the stress measures used, except for some theoretical issues discussed in the final section (for detailed discussion see Baum et al., 1982).

The stress-coping process is presumed to be guided by ongoing appraisal of current stressors in relation to current coping resources. As coping resources increase, the perceived threat value of life stressors should decrease, but lack of effectiveness at initial coping efforts should increase the current level of perceived stress (Cohen and Williamson, 1988). The coping process is assumed to continue until major stressors are eventually resolved; if further coping attempts are considered unlikely to be effective, chronic stress would ensue.

In the context of overall coping processes, substance use may be construed as an emotion-focused strategy, oriented toward reduction of emotional distress rather than change of environmental conditions (Moos and Billings, 1982). A stress-coping model posits that substance use is more likely when level of life stress is high, and when