The mechanisms by which stress may lead to disease pathogenesis within cigarette smokers is not entirely known. However, it is believed that the combined effects of smoking and stress on cardiovascular and neuroendocrine pathways significantly contribute to deleterious health effects. Psychosocial stress has been found to increase cigarette consumption and relapse after cessation. While habitual smoking prevalence rates within the United States have declined, the percentage of light/intermittent smokers (LITS) is increasing and the majority are women. Despite the fact that LITS have a greater risk for morbidity than non-smokers, stress reactivity studies with LITS are lacking. Therefore, the proposed study aims to examine and compare the effects of nicotine administration and nicotine deprivation on stress-induced physiological responses across both habitual smokers and LITS within women, an understudied group. Physiological responses will be measured before, during, and after the application of a psychosocial stressor. By examining the differential effects of nicotine administration and deprivation within female smokers, we can more clearly understand the biological mechanisms that lead to morbidity. Data from this study could also be important for the prediction of individual differences in smoking initiation and efficacy of smoking cessation treatments, which could contribute to reducing health care costs.