Repetitive and monotonous work is frequently associated with neck and shoulder pain and negative psychosocial factors inducing stress reactions. The present thesis concerns the relations between psychophysiological and subjective stress reactions, muscle activity measured by surface electromyography (SEMG) in the trapezius muscle, and neck and shoulder pain in women performing repetitive and monotonous work. In Study I cardiovascular and subjective stress reactions were investigated during computer work in a laboratory setting. The findings indicated that heart rate variability is a more sensitive and selective measure of mental stress compared with blood pressure recordings. Study II explored the relations between stress reactions and muscle activity during supermarket work. The results showed that perceived negative stress reactions may have a specific influence on muscle activity in the neck and shoulder region, which can be of importance for work-related musculoskeletal disorders in repetitive and monotonous work. In Study III the association between SEMG activity patterns and neck and shoulder pain was investigated during cash register work. It was found that pain-affected women had a different muscle activation pattern (more static, more co-contraction, less muscle rest) compared with pain-free women. Study IV was a follow-up study evaluating the introduction of job rotation among female cashiers. The results indicated positive effects on diastolic blood pressure, muscle activity, and partly on neck and shoulder pain, although perceived stress was unchanged. It was concluded that job rotation seems to have a limited effect on chronic neck and shoulder pain, but may be an effective preventive measure. The empirical findings are particularly relevant for women who, compared with men, more often perform repetitive and monotonous work and are also more often affected by neck and shoulder pain.

Keywords: Repetitive and monotonous work, women, psychophysiological stress reactions, subjective stress reactions, muscle activity, trapezius muscle, neck and shoulder pain, job rotation.