Chapter III

Problem and Hypotheses

It has been highlighted in the last chapter that the level or degree of stress is an important variable influencing and determining its effect on CFF threshold and performance. Low level of stress has been reported to increase the FFT (Busch and Wachholder, 1953; Payne, 1982), whereas the high level of stress has been found to lower the FFT (Mucher and Wendt, 1951; Pierp, 1952; Wang, 1965; Kakimoto, 1984). Nagatsuka (1973), however, reported no change.

Similar kind of variability in the effect of stress on performance as a function of level of stress has also been discussed in the last chapter. Low levels of stress have been reported to improve performance (Clark and McClelland, 1951; Dickinson, 1979). On the other hand, Sant'Anna (1951), Ross, Hussman and Andrews (1954), and Carron and Ferchuk (1971) observed an impairment of performance as a result of high level of stress.

Recently, Kakimoto (1984) has demonstrated that workload is also a media of inducing stress. In all the
above studies, various forms of stress have been undertaken but the workload form of stress has not been studied much. It seems plausible to hypothesise on the basis of above discussion that if the amount of workload is a determinant of level of stress, the effect of low and high workload on FFT and performance should be similar to the effect of low and high levels of stress induced by any other media. The investigator, therefore, decided to undertake mental workload and physical workload as a media to induce stress and the following problem was formulated.

Problem:

To study the effect of different levels of mental and physical stress on critical flicker fusion thresholds and performance levels.

Regarding the effect of workload stress on performance and CFF following hypotheses were formulated on the basis of previously cited studies.

Hypotheses:

1. Low mental stress would increase CFF threshold.
2. CFF threshold would decrease as a result of high mental stress.
3. Low mental stress would improve performance on hand steadiness task.

4. Compared to no stress high mental stress would lead to performance decrement on hand steadiness task.

5. Low physical stress would increase CFF threshold.

6. High physical stress would result in lowering of CFF threshold.

7. Low physical stress would lead to improved multiplication output and hand steadiness performance compared to no stress condition.

8. High physical stress would lead to decreased multiplication output and hand steadiness performance compared to no stress condition.