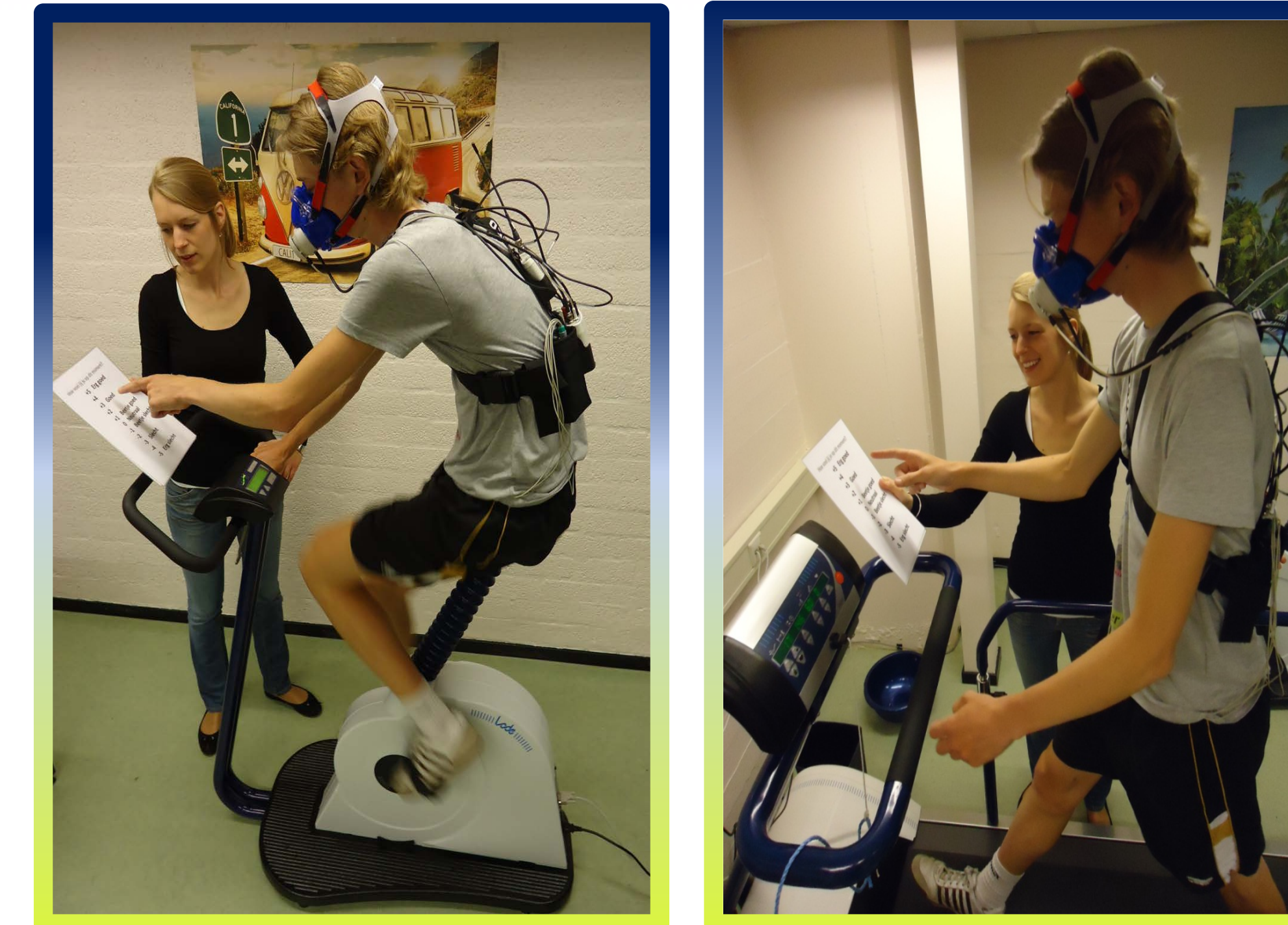


Differences in acute psychological responses to exercise in exercisers and non-exercisers

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Regular leisure-time exercise is a key contributor to health. However, the majority of the people do not engage in regular exercise at the recommended level. For exercise to be repeated, the rewarding effects should outweigh the aversive effects.

This study explores the differences in the acute psychological response during and shortly after exercise between regular exercisers and non-exercisers.

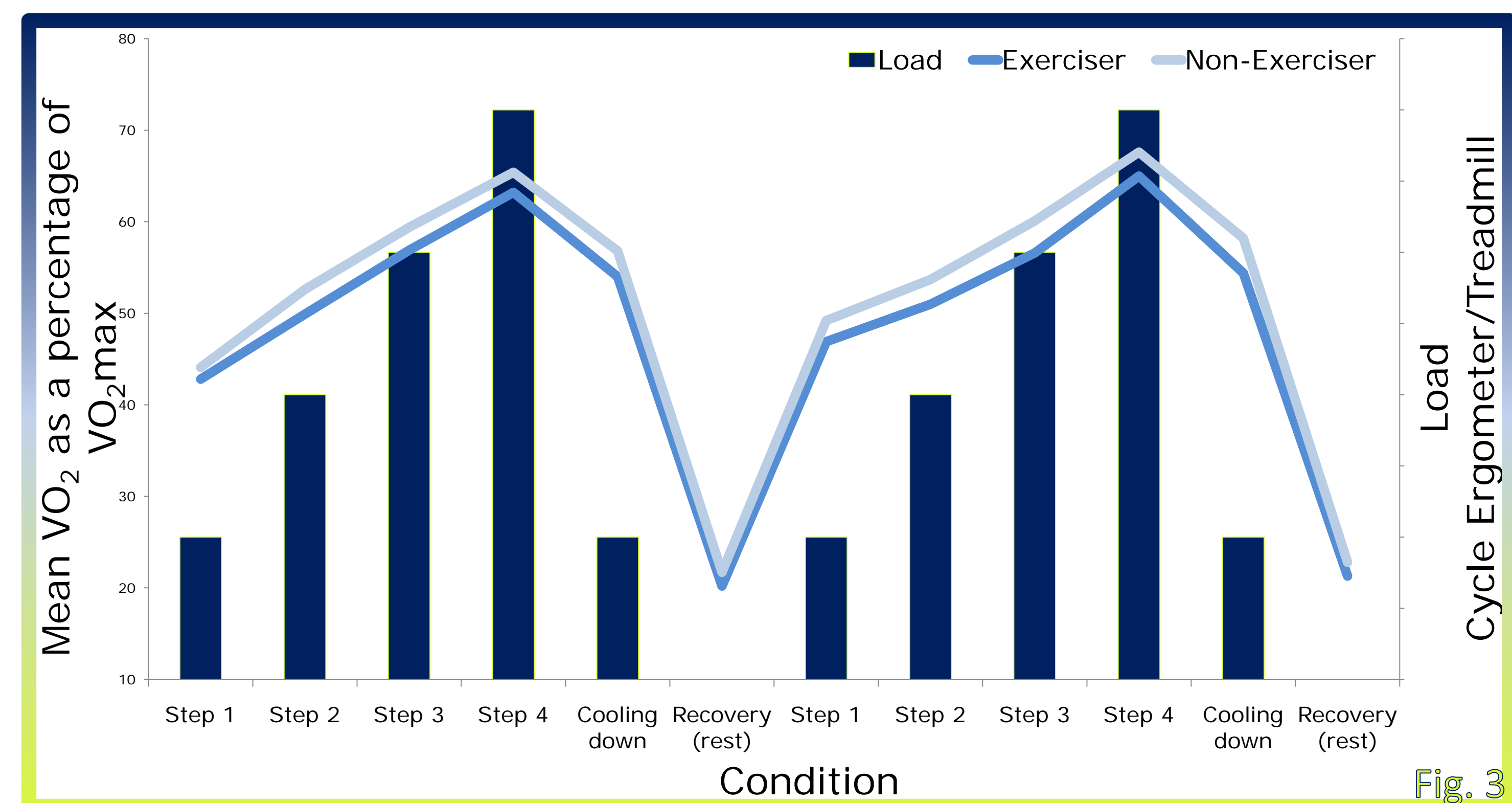
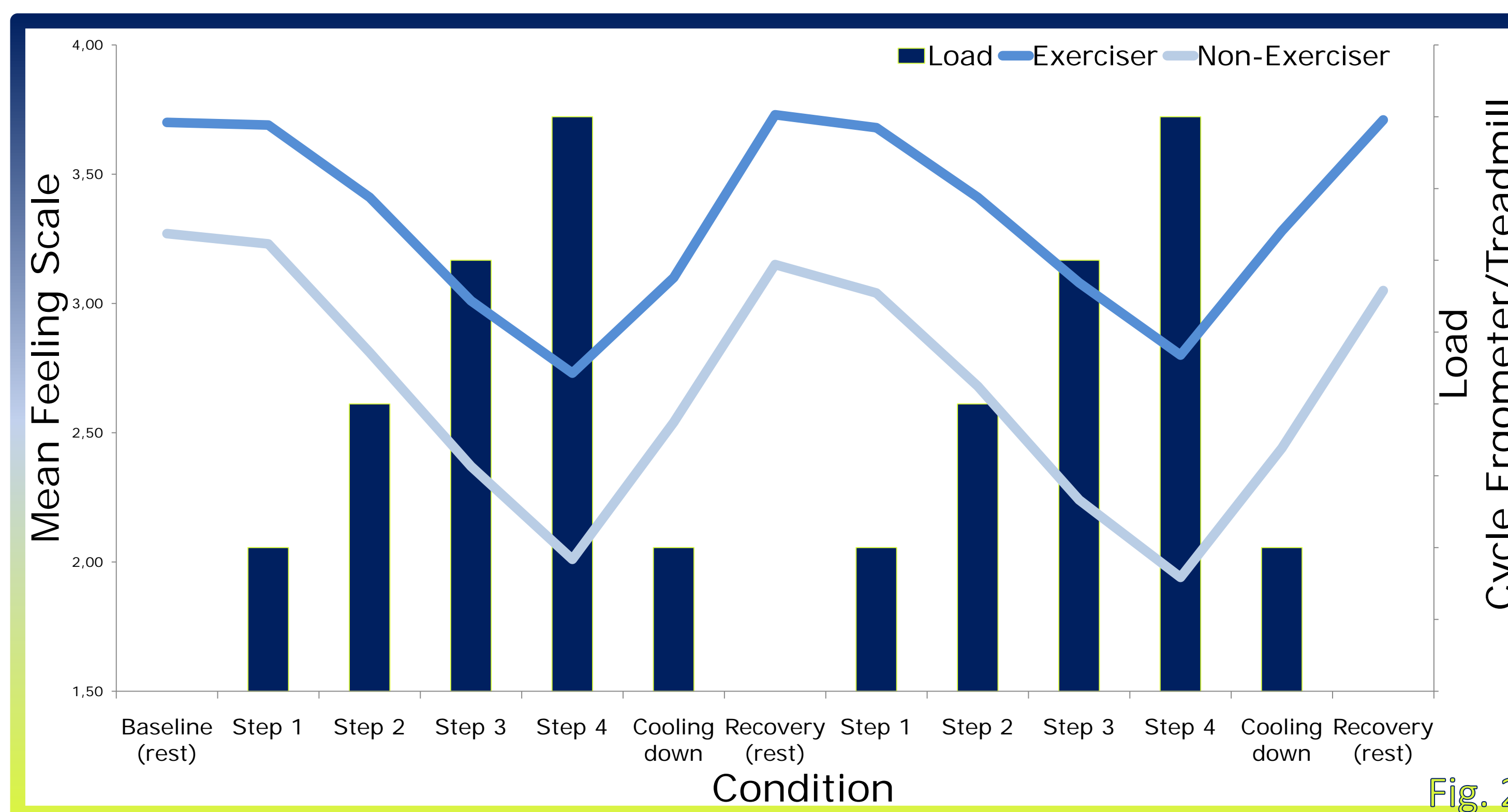


METHODS

237 subjects (154 exercisers (<4 METs/week), 83 non-exercisers) age 13-23 performed two exercise tests on a cycle ergometer and a treadmill for 20 minutes at fixed loads that are below the intensity of the ventilatory threshold (see pictures).

Psychological responses during the exercise tests were assessed by the Feeling Scale (fig 1). Before and after the exercise tests, the Activation-Deactivation Adjective Checklist was used to assess arousal state. At the end of the session a maximal exercise test was performed to establish maximal oxygen uptake (VO_2 max).

+5 Very good
+4
+3 Good
+2
+1 Fairly good
0 Neutral
-1 Fairly bad
-2
-3 Bad
-4
-5 Very bad



RESULTS

Both exercisers and non-exercisers showed a decline on the Feeling Scale scores during the exercise tests and these scores returned to baseline directly after the exertion. Although there was no significant difference at baseline, exercisers scored significantly higher on the Feeling Scale during the tests (fig 2) while no significant differences in effort – oxygen uptake (VO_2) as percentage of maximal oxygen uptake (VO_2 max) – were observed (fig 3).

After the exercise tests, exercisers reported higher scores on *powerful*, *carefree*, *full of energy* and *active* on the Activation-Deactivation Adjective Checklist than non-exercisers. ~25 minutes after the maximal exercise test (after showering), the non-exercisers felt more *sleepy* and *tired*, whereas exercisers felt more *powerful* and *strong*.

CONCLUSION

As exercise intensity increases, all subjects report negative affect, although none of the subjects exceeded their ventilatory threshold. Exercisers experience more exercise induced positive psychological effects shortly after exercise than non-exercisers.

