

# 1人走と2人走が 1500mタイムトライアルのパフォーマンスとペースに与える影響

山地啓司<sup>1)</sup>, 河合謙一<sup>2)</sup>, 鍋倉賢治<sup>3)</sup>

<sup>1)</sup> 立正大学法制研究所

<sup>2)</sup> 筑波大学大学院人間総合科学研究科

<sup>3)</sup> 筑波大学体育系

キーワード: 1500mタイムトライアル走, 心理的要因, 生理的要因, パフォーマンス, ペース

## 【要 約】

本研究は 1500mTT 走において 1 人走と 2 人走の違いがパフォーマンス, ペース, および, 生理的応答や心理的状态に与える影響を検証することを目的とした. 被験者は習慣的にレクリエーションとしてランニングを行っている男子大学生・院生の 6 名であった. 被験者は 400mトラックで 1500mTT 走を 1 人走と 2 人走で各 7 回ずつ行った. その結果, ライバルが存在する 2 人走の 1500mTT 走の記録は 1 人走のそれに比べ 5.9 秒 (2.1%) 有意に速くなった ( $p < 0.05$ ). しかし, 両者の 1500mTT 走フィニッシュ時の最高心拍数 (HRmax), ピーク血中乳酸濃度 (peakBLa) 及び主観的運動強度 (RPE) に有意な差が認められなかった. 1500mTT 走の w-up 前の二次元気尺度 (TDMS) の活性度は 2 人走が 1 人走よりも有意に高かった ( $p < 0.05$ ). 従って, 2 人走で競争しながら 1500mTT 走を行うことは 1 人走よりも記録を高め, その原因の 1 つが生理的変動よりも走る前の活性度 (やる気度) の高まりに負うことが考えられる. すなわち, 競争相手 (ライバル) がいる (2 人走) 場合はいない場合 (1 人走) に比べ, 高い外因性の動機づけが生じることを示唆した.

スポーツパフォーマンス研究, 11, 1-17, 2019 年, 受付日: 2018 年 7 月 30 日, 受理日: 2018 年 12 月 26 日

責任著者: 山地啓司 336-0017 さいたま市南区南浦和 3-41-11-502 yamaji.kk@nifty.com

\* \* \* \* \*

## **Influences of absence (solo) and presence (head-to-head competition) of a competitor on psychological factors, overall running performance, and pacing during 1500-m runs**

Keiji Yamaji<sup>1)</sup>, Ken-ichi Kawai<sup>2)</sup>, Yoshiharu Nabekura<sup>3)</sup>

<sup>1)</sup> Rissho University

<sup>2)</sup> Graduate School, University of Tsukuba

<sup>3)</sup> University of Tsukuba

Key words: 1500-m runs, psychological factors, physiological factors, performance, pacing

## **[Abstract]**

Purpose: The aim of the present study was to analyze possible influences of the absence (solo) and presence (head-to-head competition; HHC) of a competitor during 1,500-m-runs on runners' overall performance, pacing, physiological responses, and psychological condition.

Method: The participants, six male runners, ran 1,500 meters on a 400-meter running track, and their runs were timed. Each of them ran alone and also in competition with another participant (head-to-head competition).

Results: The run times when runners were competing with another runner were 5.9 seconds faster (2.1%) than when they ran alone ( $p < 0.05$ ). Immediately after the runs, no significant differences were found in the following physiological parameters: maximum heart rate (HRmax), peripheral capillary oxygen saturation (SpO<sub>2</sub>), peak blood lactate (peakBLa), and rated perceived exertion (RPE). However, before the runs, the level of activity of an index included in the Two-Dimensional Mood Scale (TDMS) was significantly higher when runners were going to compete against another runner ( $p < 0.05$ ).

Conclusions: Although the runners' psychological condition changed, as indicated by their responses on the Two-Dimensional Mood Scale, in that they perceived that their performance would be improved by the presence of a competitor, their physiological responses were not significantly different when they were running alone compared to when they ran with a competitor. These findings suggest that presence of a competitor may have been sufficient for generating a higher level of motivation than when running alone in the absence of a competitor.