

## 【文献調査】

# The effects of time pressure on driver performance and physiological activity: A driving simulator study

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## 1 タイトル

ドライバーのパフォーマンスと生理活動への時間的圧力の影響：運転シミュレータ研究

## 2 著者

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## 3 出典

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## 4 アブストラクト

時間的圧力のためにスピードを上げることは交通事故の主な原因である。以前の研究では、人は時間的圧力に対して生理的活動を増加させ、タスクの要求を緩和させるために、タスクに対して戦略を適用させることを示している。今回の運転シミュレータの研究では、眼球運動、瞳孔径、心血管及び呼吸運動、運転実績、車両制御、四肢の動き、頭部位置、自己報告状態の測定に時間圧力が及ぼす影響を調べた。時間的圧力下での人の行動に関する既存の理論に基づいて、(1) 運転速度、(2) 生理的尺度、(3) 運転戦略の3つのカテゴリーに区別した。54人の参加者は、まず6-9kmの都市部の追い越し車線で、車を追従し、交差点のある時間圧のないコース（no time pressure : NTP）と時間制約と急いで行くようにと促す仮想乗客がいる時間圧のあるコース（time pressure : TP）を運転する。その結果、NTPと比較してTPでは、(1) は大幅に速く運転され、最大制動位置、スロットル活動、車線維持精度といったものにも反映された。(2) は心拍数の増加、呼吸数の増加、瞳孔径の拡大、瞬き率の低下などの生理活性の増加を示した。(3) はでは、車追従中の左側車線への運転や交差点に接近した際の初期の視覚的な視界など、効果的な作業完了のためのシナリオ固有の戦略を採用した。NTPに対するTPの効果は一般的に大きく、統計的に有意であった。しかし、絶対値の個体差は大きかった。したがって、リアルタイムドライバフィードバック技術に、ドライバの状態を評価するための絶対的な基準の代わりに相対的な基準を使用することを推奨する。

## 5 キーワード

Simulation, Virtual reality, Workload, Psychophysiology

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