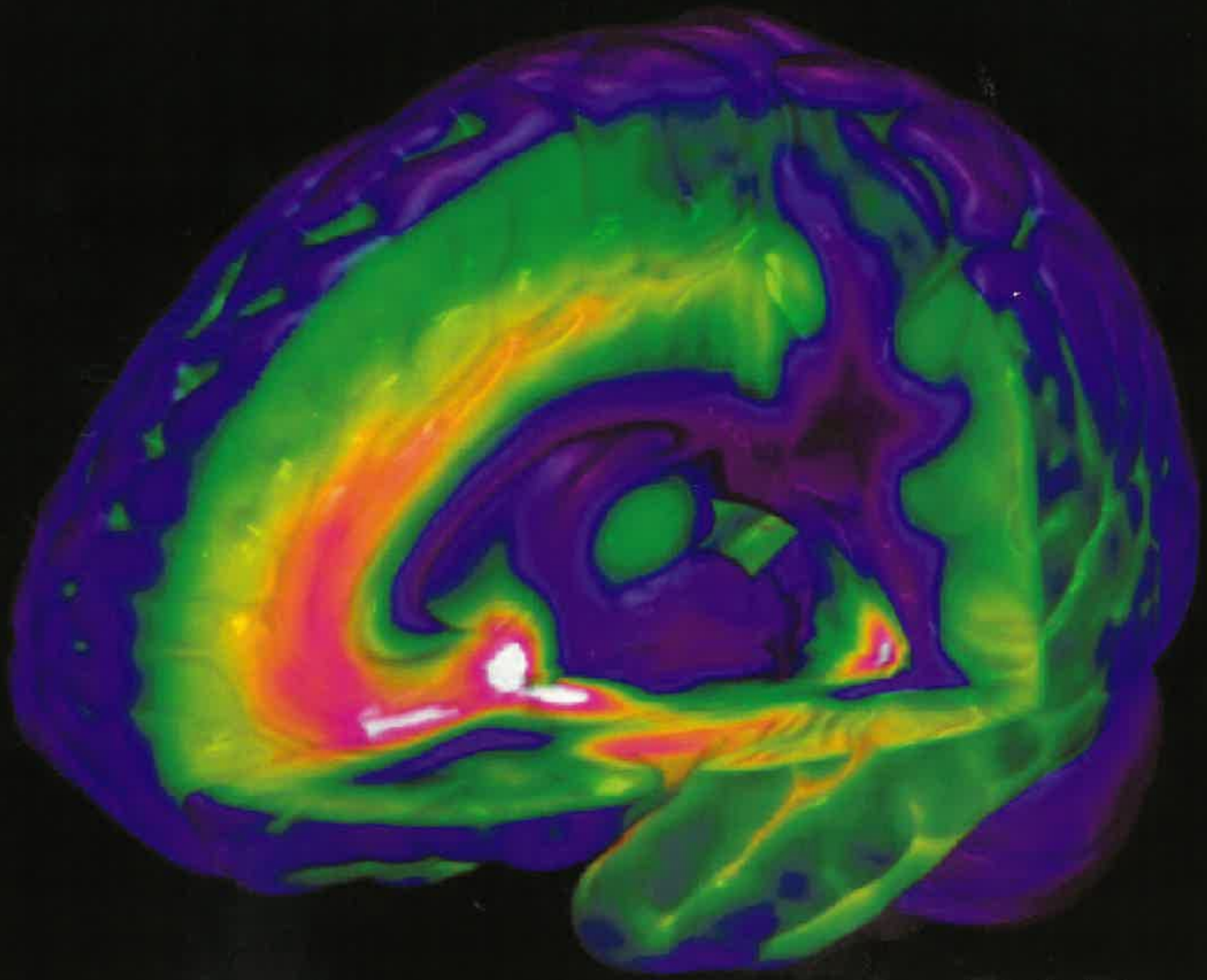
ISSN 0269-8811

Issue 36 • Number 8 • August 2022

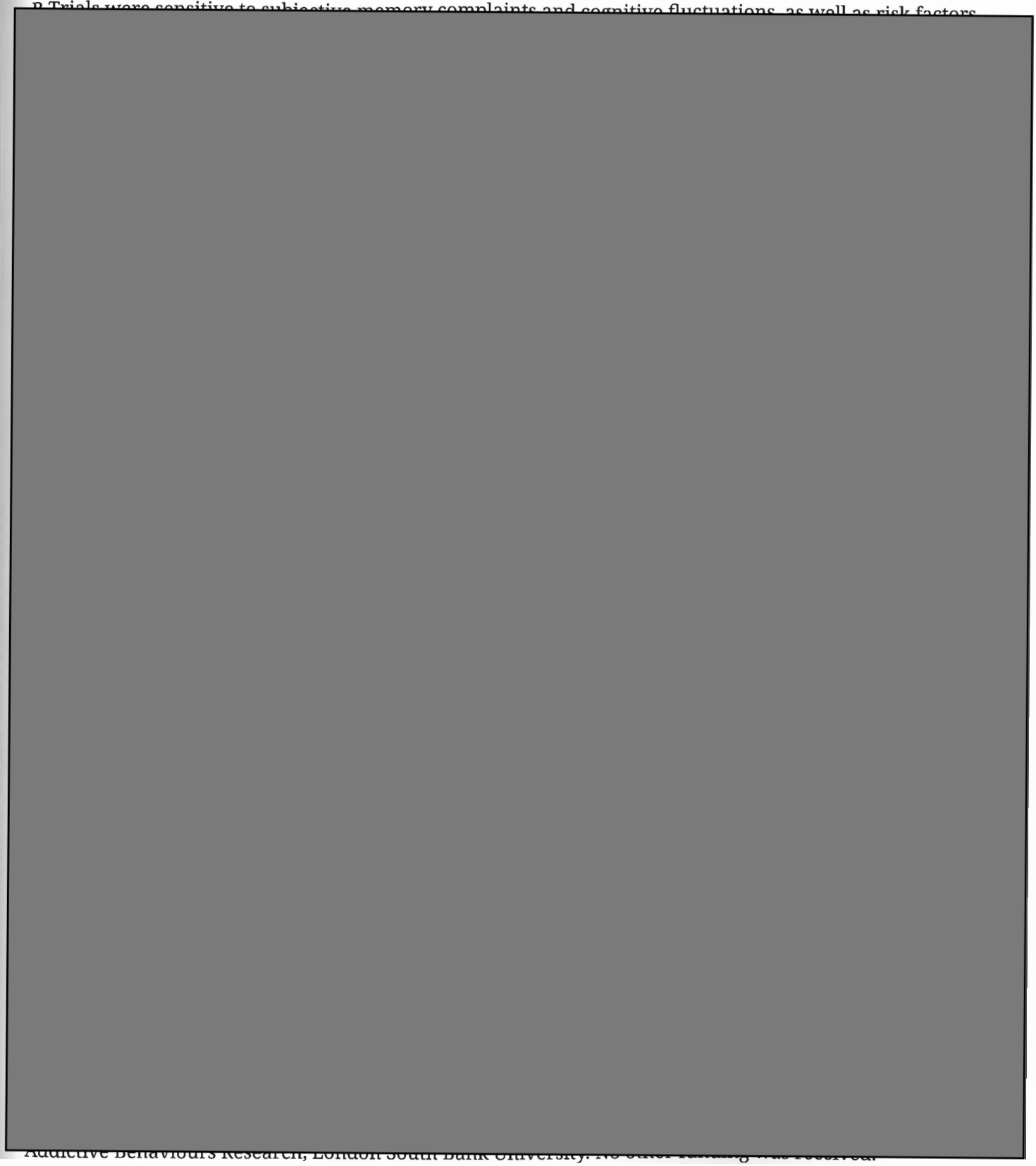
Journal of Psychopharmacology

Editors: Allan Young and Pierre Blier



journals.sagepub.com/home/jop

BAP British Association for Psychopharmacology



F17

TRADITIONAL KAVA USE, COGNITION AND DRIVER FITNESS

Aporosa SA, Te Huataki Waiora School of Health / Te Kura Whatu Oho Mauri School of Psychology, University of Waikato, Te Huataki Waiora School of Health Knighton Road Hamilton New Zealand, 3240 apo.aporosa@waikato.ac.nz

Introduction: Kava (Piper methysticum) is a traditional, culturally significant Pacific Island beverage, which produces soporific relaxant effects similar to Benzodiazepine (Sarris et al, 2012, Journal of

Psychopharmacology Clinical and Experimental, 27:262-9). Most research into kava psychopharmacology has utilised kava in extract tablet form (typically 300mg per/day), with the results erroneously overlaid on kava as used in traditional settings. Very little is known about kava's impacts on cognitive function when consumed traditionally as a drink over many hours, which often amount to more than 15 times the pharmacologically recommended dose. Approximately 70% of kava drinkers drive following use, which has prompted concerns regarding driver impairment. This research builds on two earlier studies (Aporosa et al, 2020, Journal of Human Psychopharmacology, 35[2]:e2725) to investigate the effects of kava on six cognition-related functions associated with driving.

Methods: The study was guided by the Pacific Post-development Methodological Framework to ensure the ethical and equitable use of Western standardised psychometrics among Pacific peoples (Aporosa et al., Pacific Dynamics, 5[1]:74-92). Experienced male kava users (n=20, mean age = 34.75) attended a six hour traditionally influenced kava session. Each participant consumed 3.6 litres (6.33 pints) of kava, equating to 3,680mg of kavalactones. Also present were a control group of non-kava consuming males (n=19, mean age = 35.57). At baseline, the participants completed computerised somato-sensory psychometric tests (using the Brain Gauge [www.corticalmetrics.com]) to measure six strategic, tactical and operational functions, including fine-motor-skills and fatigue. Re-testing was conducted three and six hours after kava consumption. Pre/post analysis compared within person and between group differences. Statistical modelling was based on t-tests and Bayesian analysis.

Results: Test data revealed significant impairment ($p<0.05$) to only one of the six functions assessed by the Brain Gauge–Temporal Order Judgement (TOJ) [t=0.007; B=6.193].

Conclusions: When ingested in traditional use volumes, kava did not impact participants' Focus, Accuracy, Timing Perception, Plasticity or Fatigue, but there was a significant negative impact on TOJ. TOJ (as measured by the Brain Gauge) is chiefly associated with sequencing linked to executive functions allied with decision making, behavioural control, and information processing (Aporosa et al., 2022, Journal of Ethnopharmacology, 291[115080]:1-15). These new findings suggest that traditional kava use effects are unique and subtle, and manifest very differently to alcohol, cannabis and hallucinogens. Nevertheless, kava effects may compromise driver safety. The study was followed up with a culture-relevant kava drink-driving awareness campaign.

Funding: The study was funded by the New Zealand Health Research Council (19/002).

G01

intervention).