

# Longitudinal study of the effects of shift work on health

Funded by



Dr David Ansiau, International University of Monaco  
 Dr Jean-Claude Marquié, Université de Toulouse – Le Mirail  
 Dr Phillip Tucker, University of Swansea  
 Dr Simon Folkard, Simon Folkard Associates, Ltd  
 Presented by Ivan Williams, Institution of Occupational Safety and Health

The project focused on the long-term effects of shift work and the implications for safety and health management, especially job design and work organisation.

## Objectives

- To determine the long-term effects of shift work on sleep quality, quality of life and physical health
- To develop a model showing how all the variables associated with shift work interact over time and affect OSH
- To examine the root causes of the cognitive deficits associated with long-term shift work

## Method

The study analysed cross-sectional and longitudinal features of age-related changes of subjective sleep quality and tested the hypothesis of persistence of sleep problems among former shift workers.

## Results

### Sleep

- Sleep problems seem to increase among workers in their 30s or 40s and tend to stabilise in their 50s and 60s
- There's an underlying trend for sleep quality to get worse with ageing
- When leaving shift work, sleep problems remain at the same level rather than worsen

### Quality of life

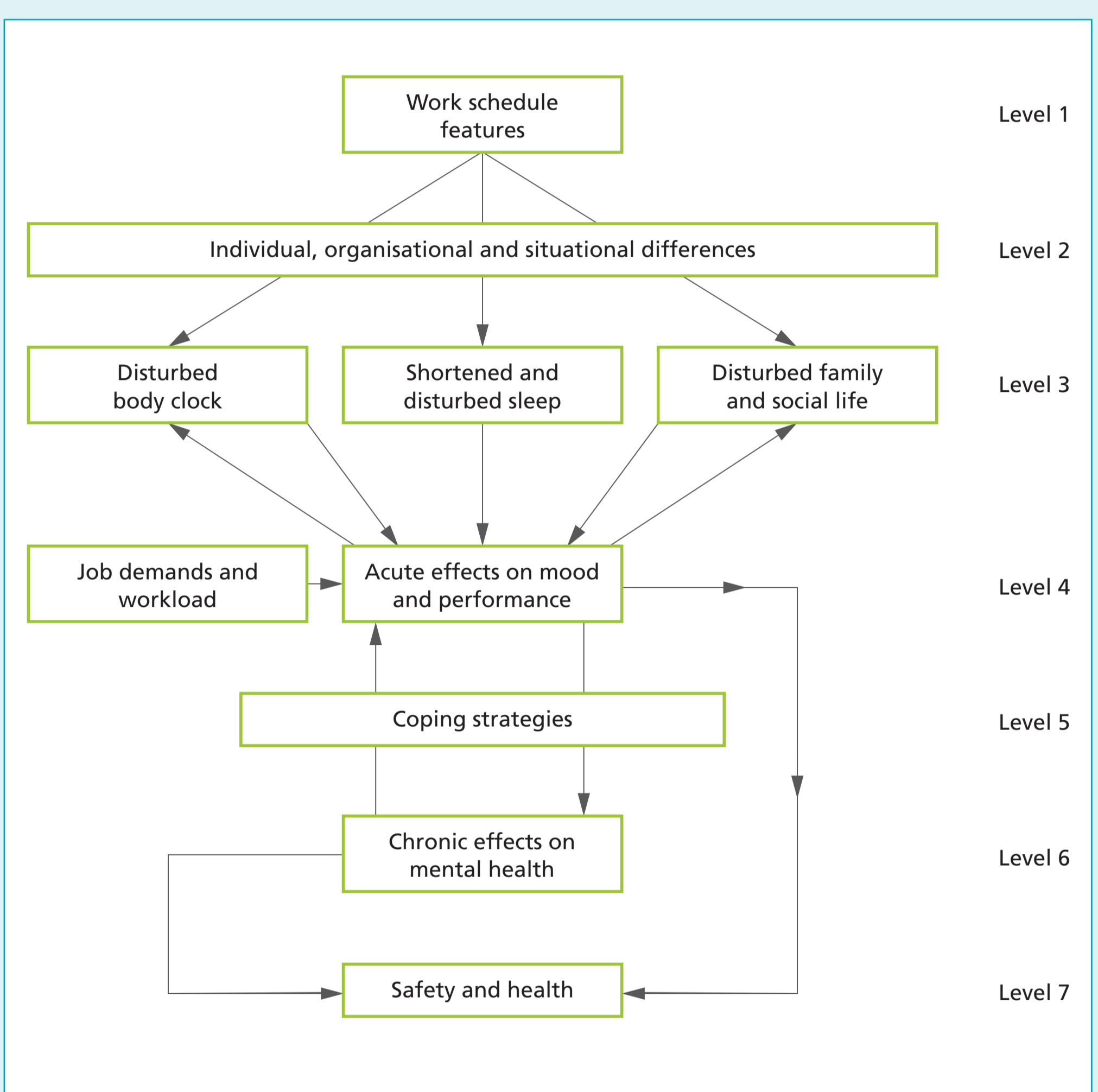
- Participants working on shifts reported more chronic fatigue than day workers
- Negative effects of shift work do not immediately disappear after workers stop doing shift work – with the exception of chronic fatigue

### Physical health

- Shift workers more likely to show symptoms of metabolic syndrome – a range of physical health problems such as obesity, cardiovascular disease, peptic ulcers, gastro-intestinal problems and failure to control blood-sugar levels

## Conclusion

The study has thrown some light on the more chronic effects of exposure to shift work and employees' potential recovery after quitting shift work.



## Good practice in action

### Tips for employees

#### Sleep and fatigue

- Restrict energy intake on the night shift between midnight and 06.00 and try to eat at the beginning and end of the shift
- Avoid caffeine, alcohol and large meals before going to sleep

#### Psychological and physical health

- Stick as closely as possible to a normal day-and-night pattern of food intake
- Reduce foods high in fat and salt
- Avoid excessive use of antacids, tranquilisers and sleeping pills
- Use relaxation techniques such as deep and slow breathing

#### Social isolation

- Use a calendar to schedule events and activities
- Establish good communication skills
- Socialise with other shift workers and their families
- Pay close attention to physical fitness
- Practise stress reduction

### Tips for employers

#### Sleep and fatigue

- Evaluate shift schedule design
- Allow adequate time between shifts for sleep and meal preparation
- Schedule the most demanding work early in the shift when workers are most alert

#### Psychological and physical health

- Plan shifts as far in advance as possible
- Keep schedules flexible by allowing workers to trade shifts
- Provide workshops and information sessions on stress management
- Include mental health to employee assistance programmes

#### Social isolation

- Offer 24-hour day-care solutions
- Provide workshops on communication and conflict resolution
- Organise hobby or interest groups within the workplace

Research conducted by



Swansea University  
Prifysgol Abertawe

For more information, contact the IOSH Information and Intelligence team at [researchandinformation@iosh.com](mailto:researchandinformation@iosh.com)