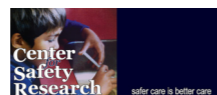


# structural interventions against physician burnout resident schedule

---

Christopher S Parshuram MBChB DPhil.

**staff physician** Department of Critical Care Medicine **senior scientist** Child Health Evaluative Sciences Program. The Research Institute. Hospital for Sick Children. **director** Centre for Safety Research. **professor** Interdepartmental Division of Critical Care Medicine & Departments of Pediatrics & Health Policy, Management and Evaluation. **faculty** Patient Safety Centre, Faculty of Medicine, University of Toronto, Canada.



SickKids®



# disclosures

**Named inventor:** Patent Bedside Paediatric Early Warning System. Owner the Hospital for Sick Children.

**Shares:** Bedside Clinical Systems - a clinical decision support company in part owned by the Hospital for Sick Children.



# schedule?

*personal* | *professional*

*stressors*  
*mitigation*

crashes  
circadian rhythm disrupt  
sleep deprivation  
physical symptoms  
debt & exams

work content  
workload  
environment/ culture

Individual  
Effects

family  
positive relationships  
vacation  
hobbies

staff support  
supervision  
reward  
recognition

# Patient safety, resident well-being and continuity of care with different resident duty schedules in the intensive care unit: a randomized trial

Christopher S. Parshuram MB ChB DPhil, Andre C.K.B. Amaral MD, Niall E. G. Ross Baker PhD, Edward E. Etchells MSc MD, Virginia Flintoft BN MSc, Lorelei Lingard PhD, Haresh Kirpalani BM MSc, Sangeeta Mehta MD, Har Damon C. Scales MD PhD, Thomas E. Stewart MD, Andrew R. Willan PhD, for the Canadian Critical Care Trials Group

Author audio interview: [soundcloud.com/cmajpodcasts/parshuram-resident](https://soundcloud.com/cmajpodcasts/parshuram-resident). Author video summary: [www.youtube.com/watch?v=4cmajpodcast](https://www.youtube.com/watch?v=4cmajpodcast) /suppl/doi:10.1503/cmaj.140752-/DC2

47 (96%) residents

2 adult ICU

3 schedules

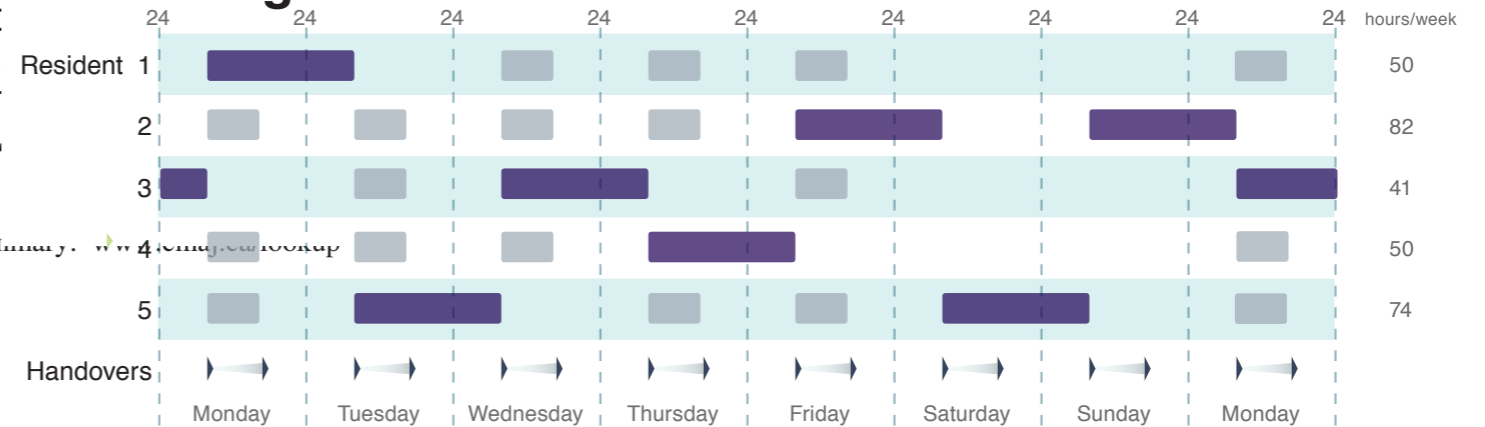
12h 7/8 harmful errors

least favoured

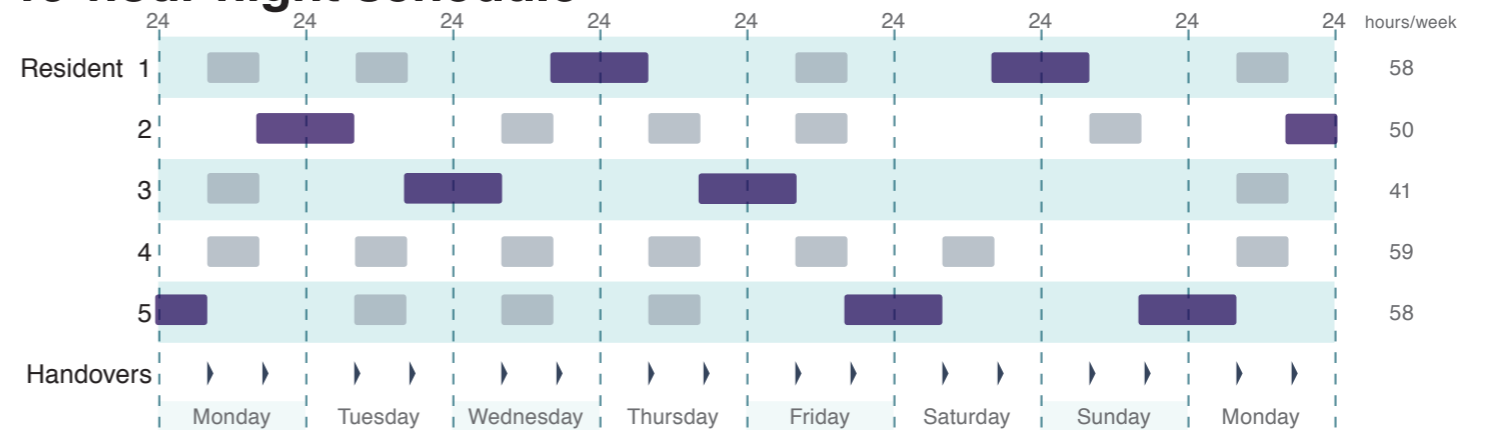
16h patients known less

24h worst symptoms

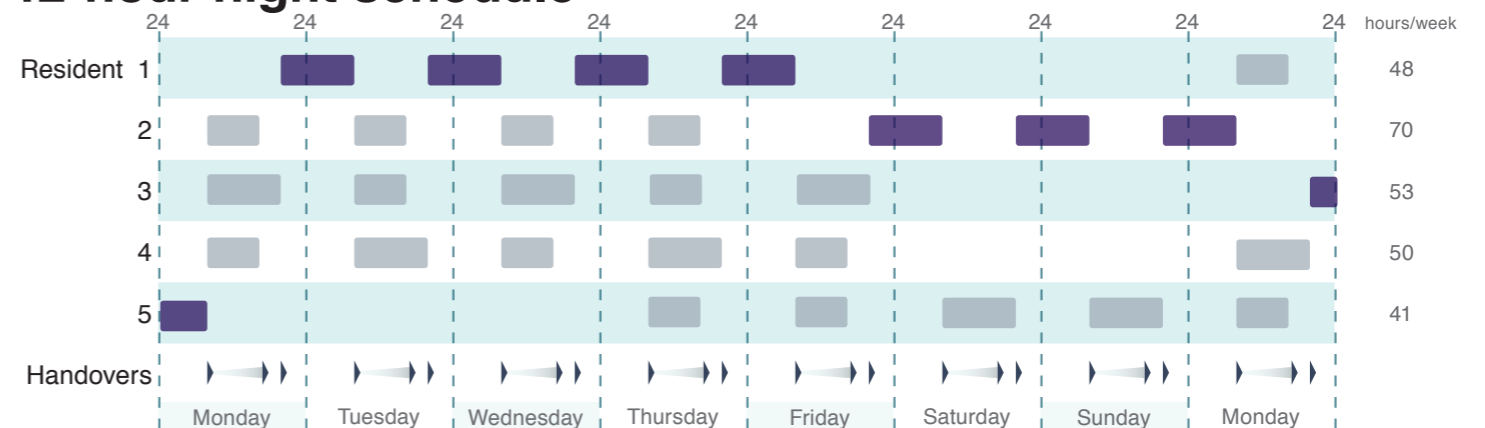
## 24-hour night schedule



## 16-hour night schedule

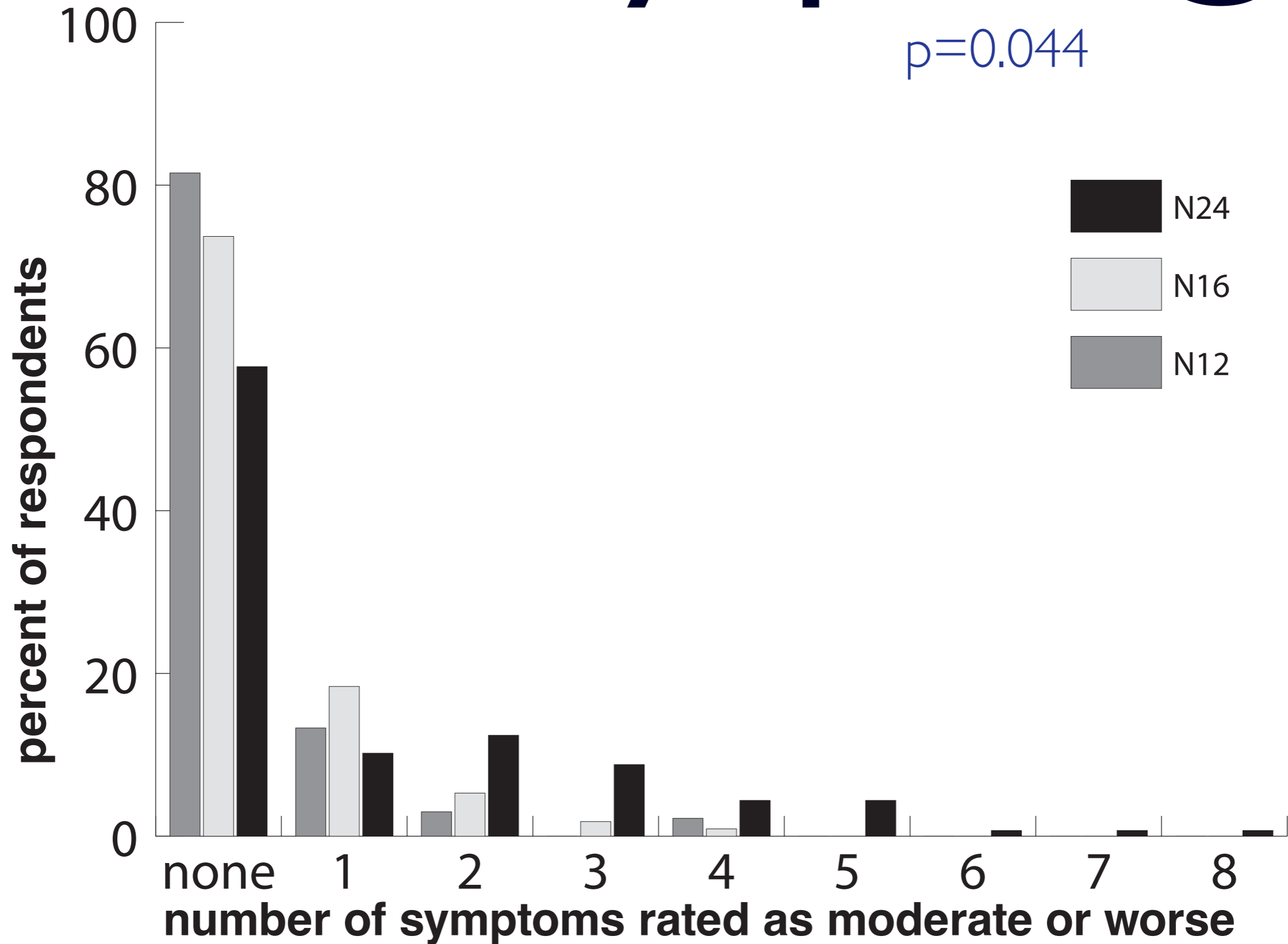


## 12-hour night schedule

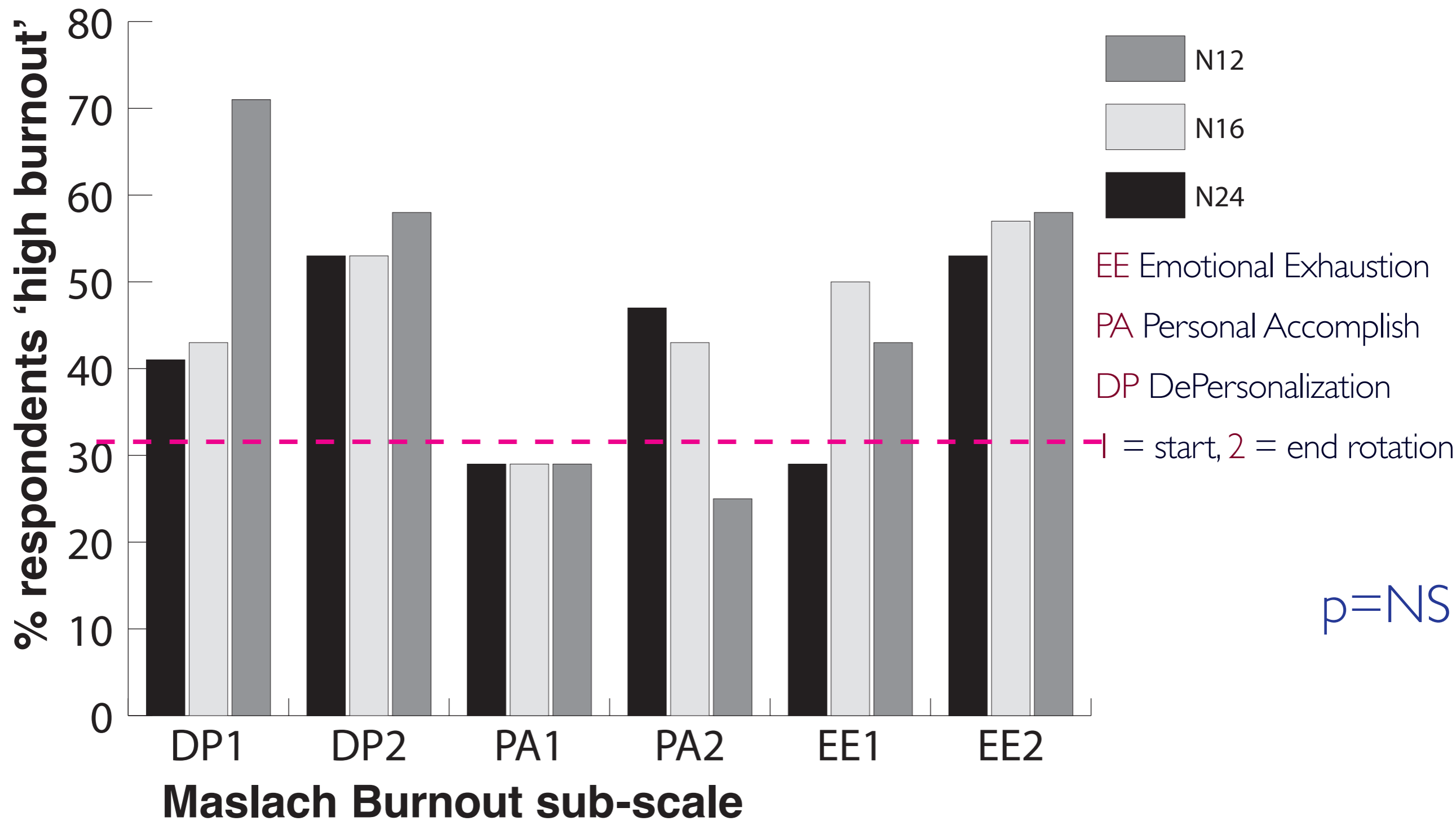


# moderate.symptoms@8

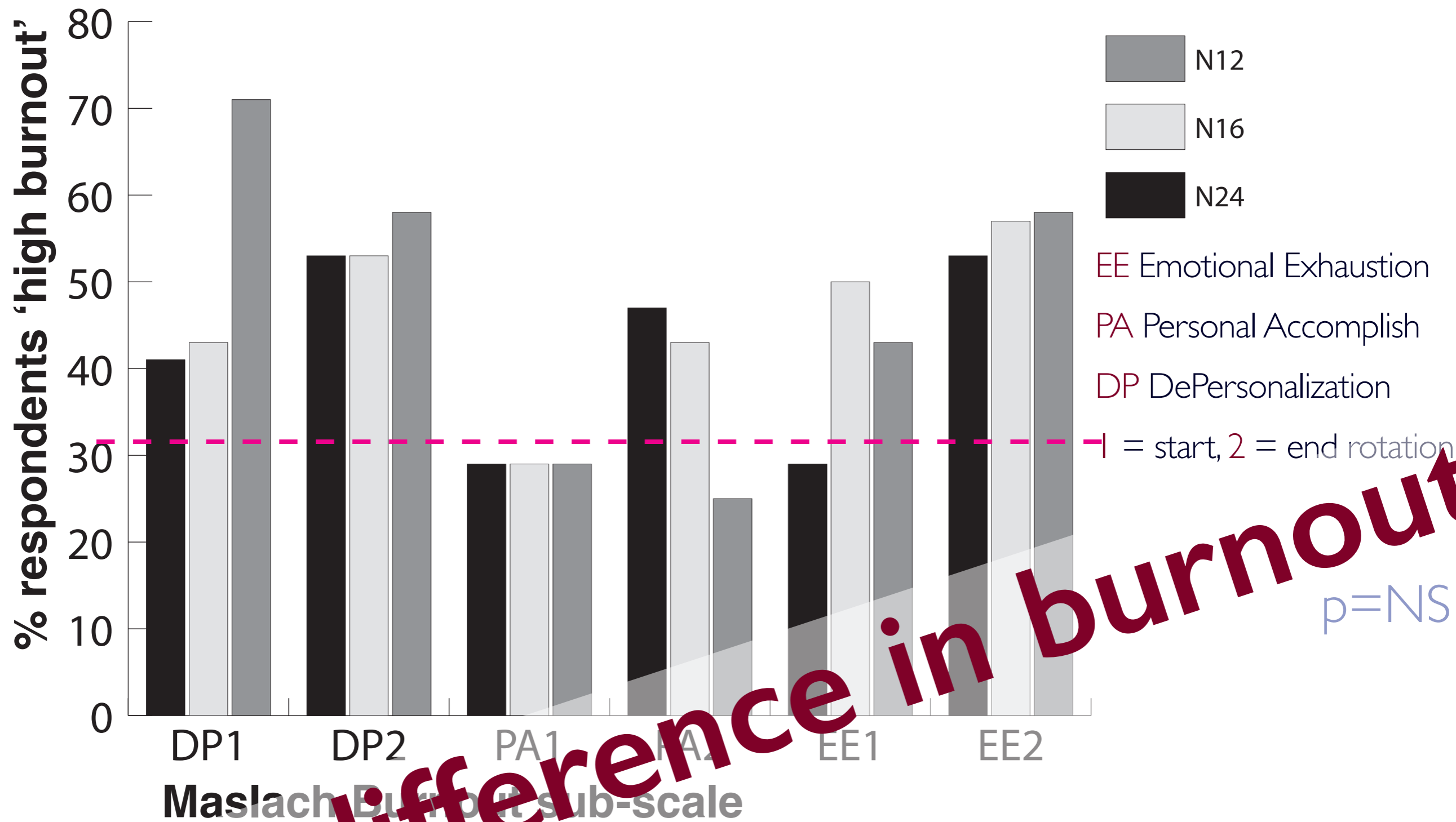
p=0.044



# Burnout inventory



# Burnout inventory



no difference in burnout  
p=NS

# High-level burnout

Residents with High degree of burnout by MBI domain

rotation	start (n=45)	end (n=41)	difference
Emotional Exhaustion	51%	59%	+8%
Depersonalization	29%	39%	+10%
Personal Accomplishment	40%	56%	+16%

Modest numbers of individual residents tested,  
non-significant, but consistent increases across domains  
> 2months in ICU may increase resident burnout.



# interpretation

## 1 Baseline Emotional Exhaustion

pre-existing /system issue

## 2 No difference between ICU schedules

but low power to exclude important effect

## 3 ICU Environment $>$ ICU Schedule

2 months in ICU may increase burnout

for sleepiness: working at night  $>$  schedule

# the ICU environment

12-20% mortality

conflict & characters

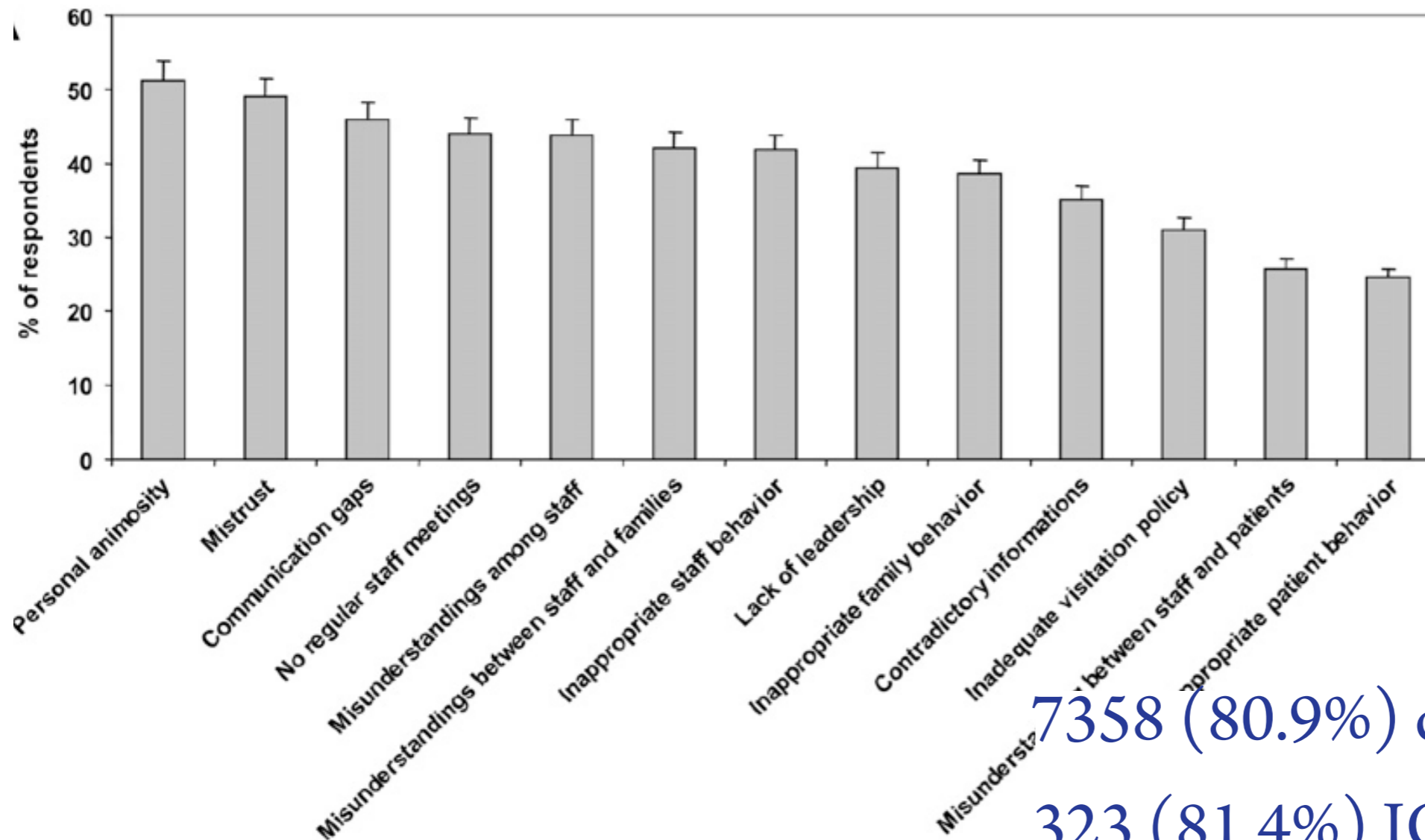
burnout

moral distress

# Prevalence and Factors of Intensive Care Unit Conflicts

## The Conflicus Study

Élie Azoulay<sup>1</sup>, Jean-François Timsit<sup>2</sup>, Charles L. Sprung<sup>3</sup>, Marcio Soares<sup>4</sup>, Kateřina Rusinová<sup>5</sup>, Ariane Lafabrie<sup>1</sup>, Ricardo Abizanda<sup>6</sup>, Mia Svantesson<sup>7</sup>, Francesca Rubulotta<sup>8</sup>, Bara Ricou<sup>9</sup>, Dominique Benoit<sup>10</sup>, Daren Heyland<sup>11</sup>, Gavin Joynt<sup>12</sup>, Adrien Français<sup>2</sup>, Paulo Azevedo-Maia<sup>13</sup>, Radoslaw Owczuk<sup>14</sup>, Julie Benbenishty<sup>3</sup>, Michael de Vita<sup>15</sup>, Andreas Valentin<sup>16</sup>, Akos Ksomos<sup>17</sup>, Simon Cohen<sup>18</sup>, Lidija Kompan<sup>19</sup>, Kwok Ho<sup>20</sup>, Fekri Abroug<sup>21</sup>, Anne Kaarlola<sup>22</sup>, Herwig Gerlach<sup>23</sup>, Theodoros Kyprianou<sup>24</sup>, Andrej Michalsen<sup>25</sup>, Sylvie Chevret<sup>26</sup>, and Benoît Schlemmer<sup>1</sup>, for the Conflicus Study Investigators and for the Ethics Section of the European Society of Intensive Care Medicine\*



7358 (80.9%) questionnaires

323 (81.4%) ICUs | 24 countries

5268 = 71.6% reported  $\geq 1$  conflict

# burnout

47% French Intensivists

Embriaco 2007

30% Paediatric Intensivists

Levi 2004

14% Paediatric Intensivists

Fields 2005

33% French ICU Nurses

Poncet 2007

historical levels ~ versus population level  
more recent levels higher ...

# High Level of Burnout in Intensivists

## Prevalence and Associated Factors

Nathalie Embriaco<sup>1</sup>, Elie Azoulay<sup>2</sup>, Karine Barrau<sup>3</sup>, Nancy Kentish<sup>4</sup>, Frédéric Pochard<sup>5</sup>, Anderson Loundou<sup>3</sup>, and Laurent Papazian<sup>1</sup>

<sup>1</sup>Medical Intensive Care Unit, Hôpital Sainte-Marguerite Teaching Hospital, Université de la Méditerranée, Marseille, France; <sup>2</sup>Medical Intensive Care Unit, Saint Louis Teaching Hospital, Paris, France; <sup>3</sup>Laboratoire de Santé Publique, Faculté de Médecine, Marseille, France; <sup>4</sup>Département de Sociologie, Université Victor Segalen, Bordeaux, France; and <sup>5</sup>Maison des Adolescents, Cochin-Port Royal Teaching Hospital, Paris, France

cross-sectional, 198 French ICUs

978 physician respondents, 38% trainees (fellows, interns)

59+/- 12 hours worked / week

24% symptoms of depression

46.5% high degree of burnout

# higher MBI scores

independently associated :

- 1 female sex
  - 2 the number of night shifts per month
  - 3 a longer period of time from the last nonworking week,
  - 4 night shift before the survey (the cause or as done more often?)
  - 5 conflict with another colleague intensivist (the cause or effect?)
  - 6 conflict with (a) nurse (the cause or effect?)
- & Protective: relationship quality with chief nurses & nurses
- & **NOT** severity of illness of patient factors, or worked hours.

# Moral Distress in PICU and Neonatal ICU Practitioners: A Cross-Sectional Evaluation

Charles Philip Larson, MD, FRCPC<sup>1</sup>; Karen D. Dryden-Palmer, RN, PhD(c)<sup>2</sup>;  
Cathy Gibbons, MBBChBAO, MRCPI<sup>3</sup>; Christopher S. Parshuram, MBChB, DPhil, FRCP<sup>4</sup>

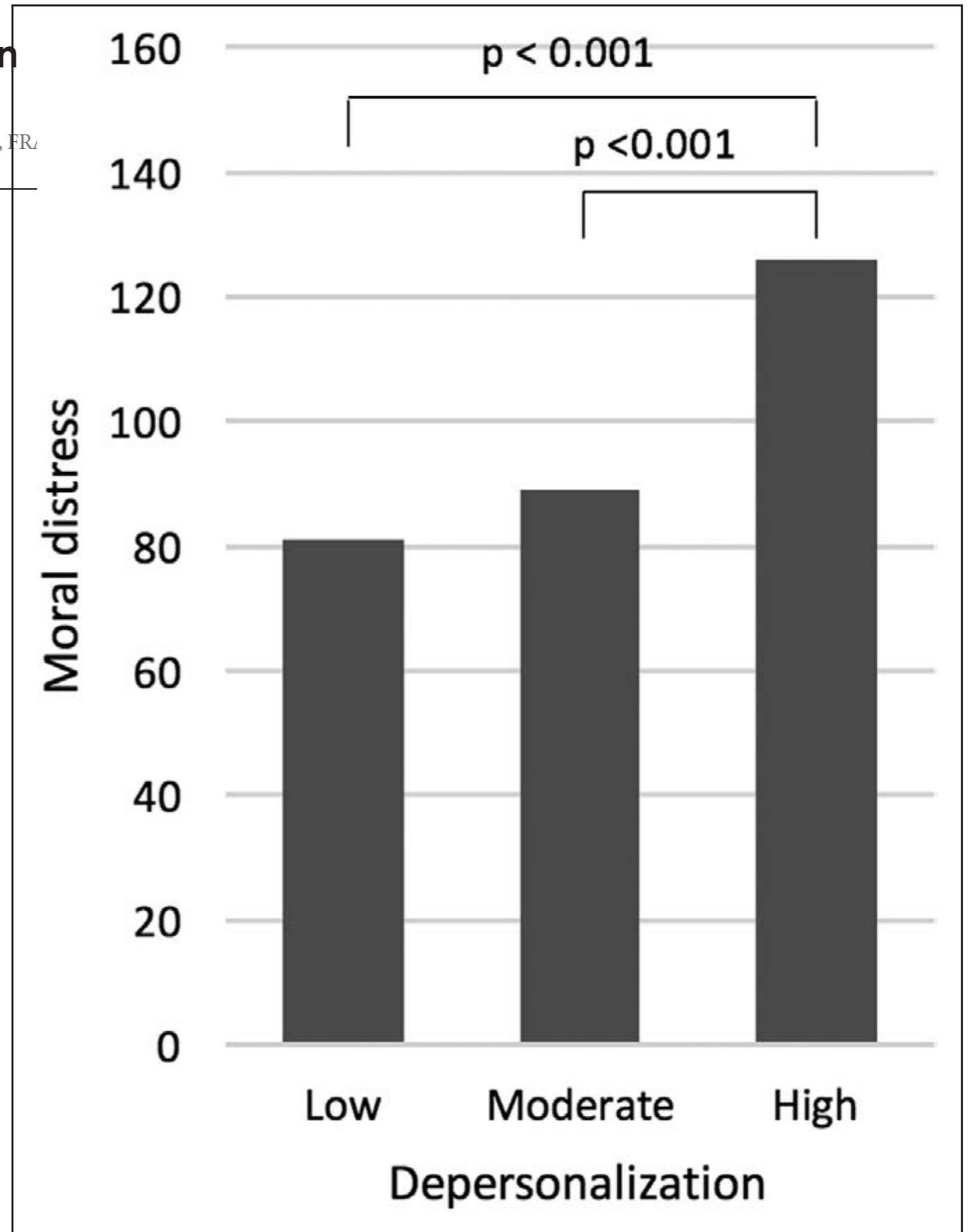
moral distress &  
depersonalization

$r^2 = 0.27; p < 0.001$

apparent paradox?

mechanism ?

epiphenomenon?



# structural interventions?

- 1 baseline issue - and conference rationale
- 2 understand the origins of the problem
- 3 schedule interventions limited effect....  
larger scale studies needed :)
- 4 mitigate moral distress
- 5 individual mindfulness (trainees/ faculty)
- 6 professional self-respect
- 7 fatigue risk management (org. mindfulness)



*personal* | *professional*

crashes  
circadian rhythm disrupt  
sleep deprivation  
physical symptoms  
debt

work content  
workload  
environment/ culture

Individual  
Effects

*stressors*  
*mitigation*

**sleep**  
family  
positive relationships  
vacation  
hobbies

sleep  
staff support  
supervision  
reward & recognition  
**fatigue risk management**

**thank you**  

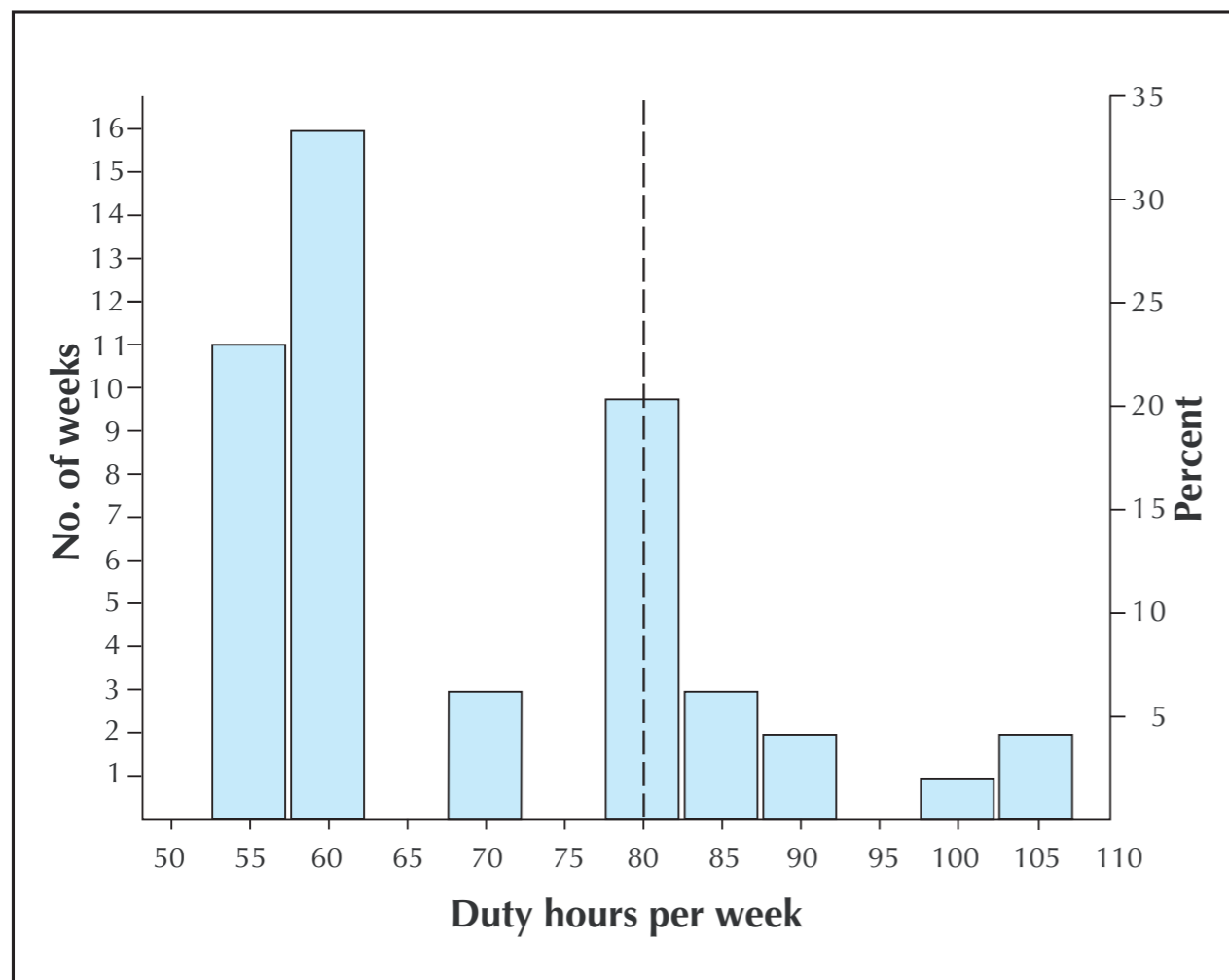
---

chris@sickkids.ca

## Fellowship training, workload, fatigue and physical stress: a prospective observational study

Christopher S. Parshuram, Sonny Dhanani, Joel A. Kirsh, Peter N. Cox

† See related article page 975



|| ICU fellows

35 overnight duty periods = 24h

40 pages

no sleep 1 in 7 nights

most responsible in-house 8-9h

6.3km walked

ketonuria 1 in 5 mornings

half of 48 weeks 55-60h / week

> regulation does not protect