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# Give nurses a *high quality* break

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## The issue

- **Increased workload** among nurses [1] due to **structural staff shortage** [2]
- High workload increases **tiredness**[3] which has a negative effect on **performance**[4], stress levels, mood, well-being and job satisfaction [5]
- Tiredness increases the probability of **human error** [6], and thereby affects the quality of care provided
- **Breaks are very effective** in decreasing tiredness and stress [7] and improving mood and performance [8]
- Increasing the quantity of breaks can be effective [7], but this is **not feasible** because of organizational constraints and the **personality** of nurses
- In general, nurses have a great **sense of responsibility**, they quickly feel **guilt towards patients** when they do not come to aid when called upon, and they feel a personal **obligation to sacrifice** themselves for the sake of their patients and colleagues [9]
- A **high quality break** is a mental and physical time-out of work related activities [10]
- Therefore, we focus on the cognitive aspects regarding the **quality of the breaks** to reduce tiredness and stress and improve mood and performance

## Results: redesign the break room

- **Blue light** (400-450 nm) increases alertness and is present in sunlight and most artificial lighting [11]. Prolonged exposure can be experienced as energy draining [12]
- **Amber light** (600 nm) can induce a state of relaxation [13]. Amber light can also reduce the energy draining effect of blue light in other rooms [14]. No amber light during night shifts to avoid sleepiness
- **Increasing the amount of amber light** in the break room will improve the restorative effect of the break
- **Exposure to green plants** has been shown to reduce levels of tiredness and stress [15]. This restorative effect can be obtained in **3 to 5 minutes** [16] Currently, there are almost no plants in the break rooms
- **Noise** (the subjective experience of sound that is undesirable and/or too loud) can disrupt the mental time out and increase stress [17]
- Especially **low frequency noise** (<200 Hz) [18] and noise that is **work-related** [11], such as beeping monitoring devices, produce stress
- **Reducing the noise levels** in the break rooms will result in an increased quality of the time out

## Acknowledgements

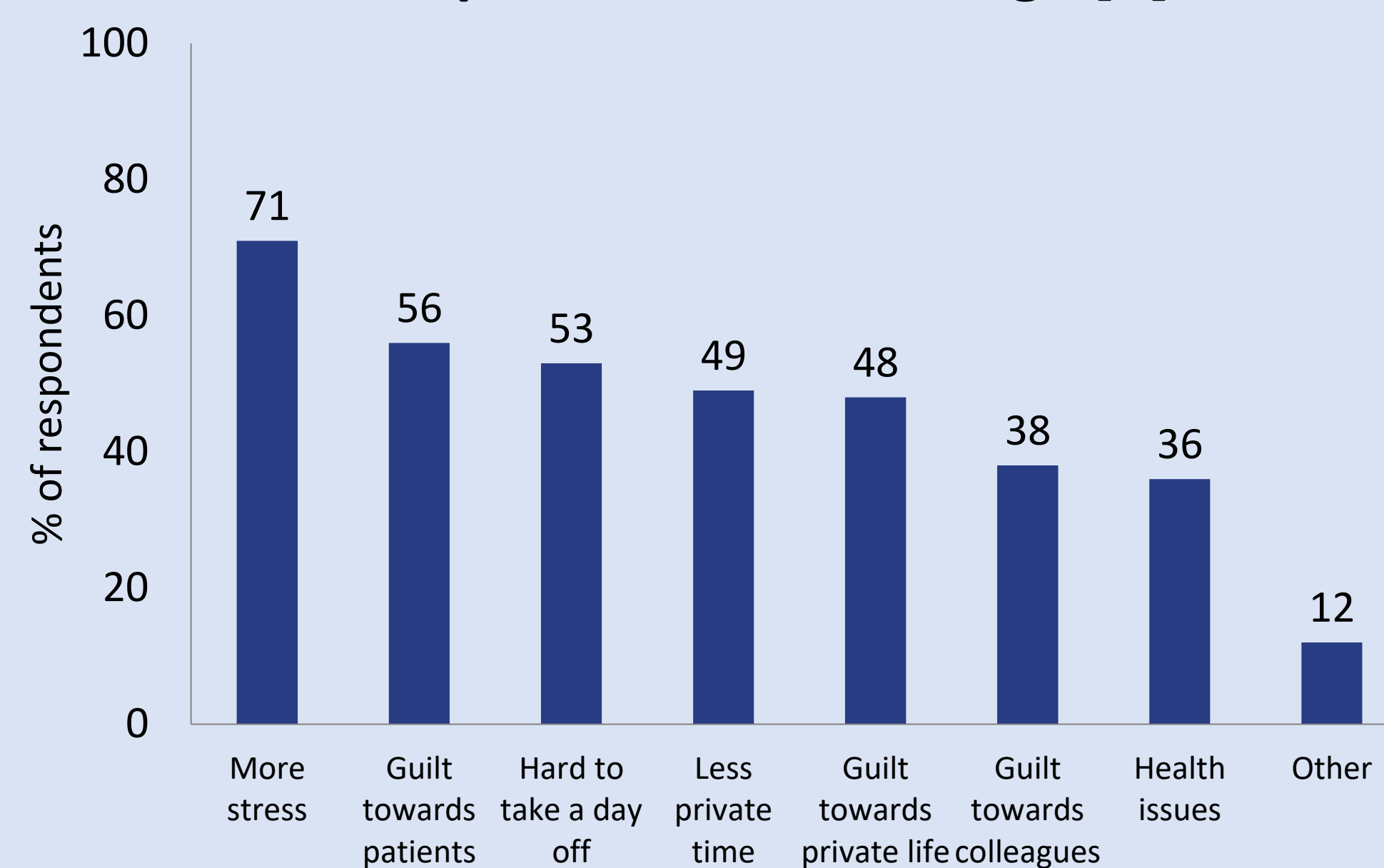
We want to thank the ASZ for the active participation and cooperation during our visits and the received hospitality, Ralph So for the invitation and the other members of the MAKI team for their support



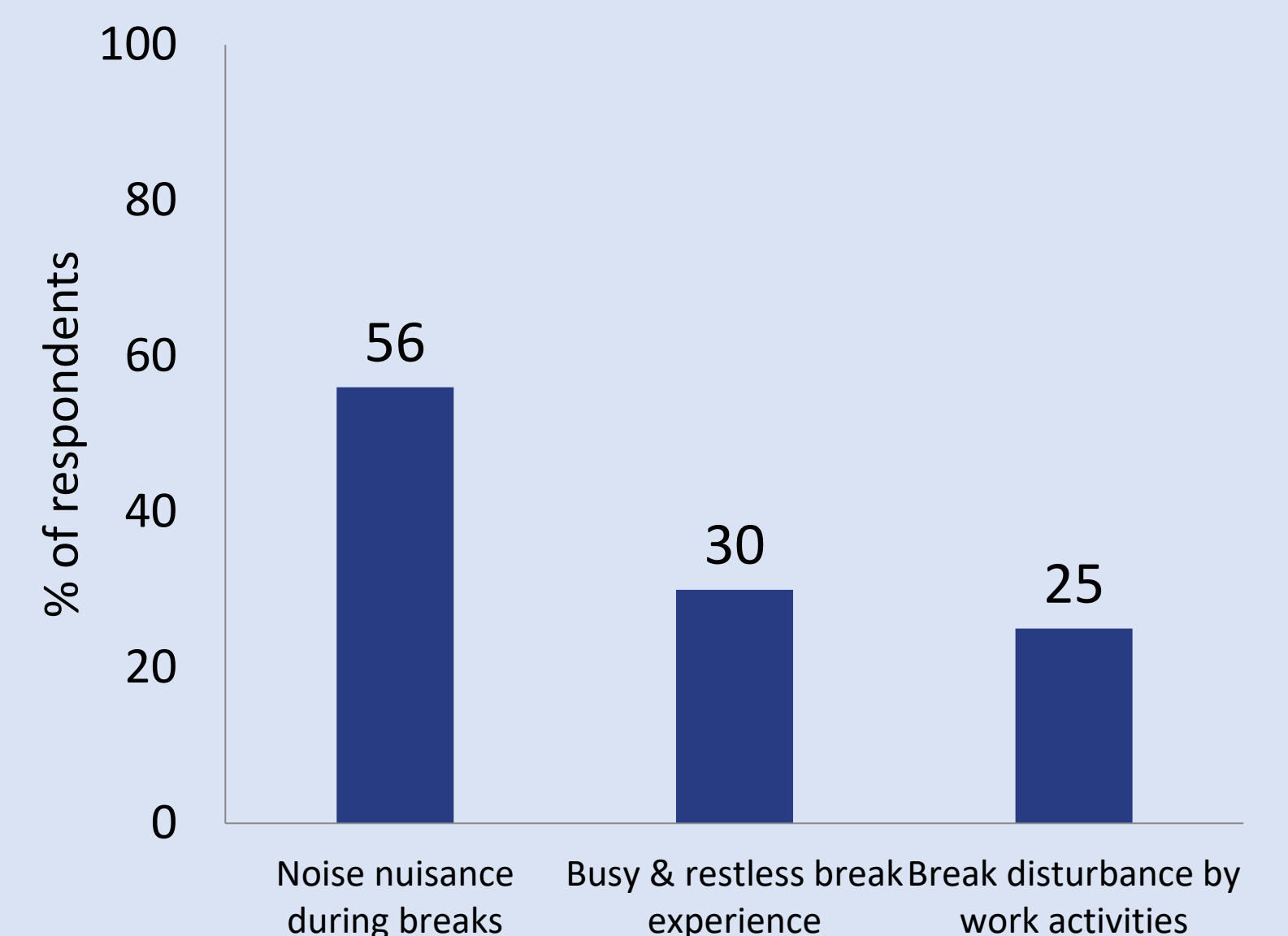
## Recommendations

- Adjust the break rooms with regard to light, vegetation and sound
- Light: use adjustable light bulbs in the break room with amber light (600 Nm) during the dayshift in the breakroom
- Vegetation: incorporate green plants in the break room
- Sound: integrate noise-reducing elements that reduce (work-related) noise below 200 Hz

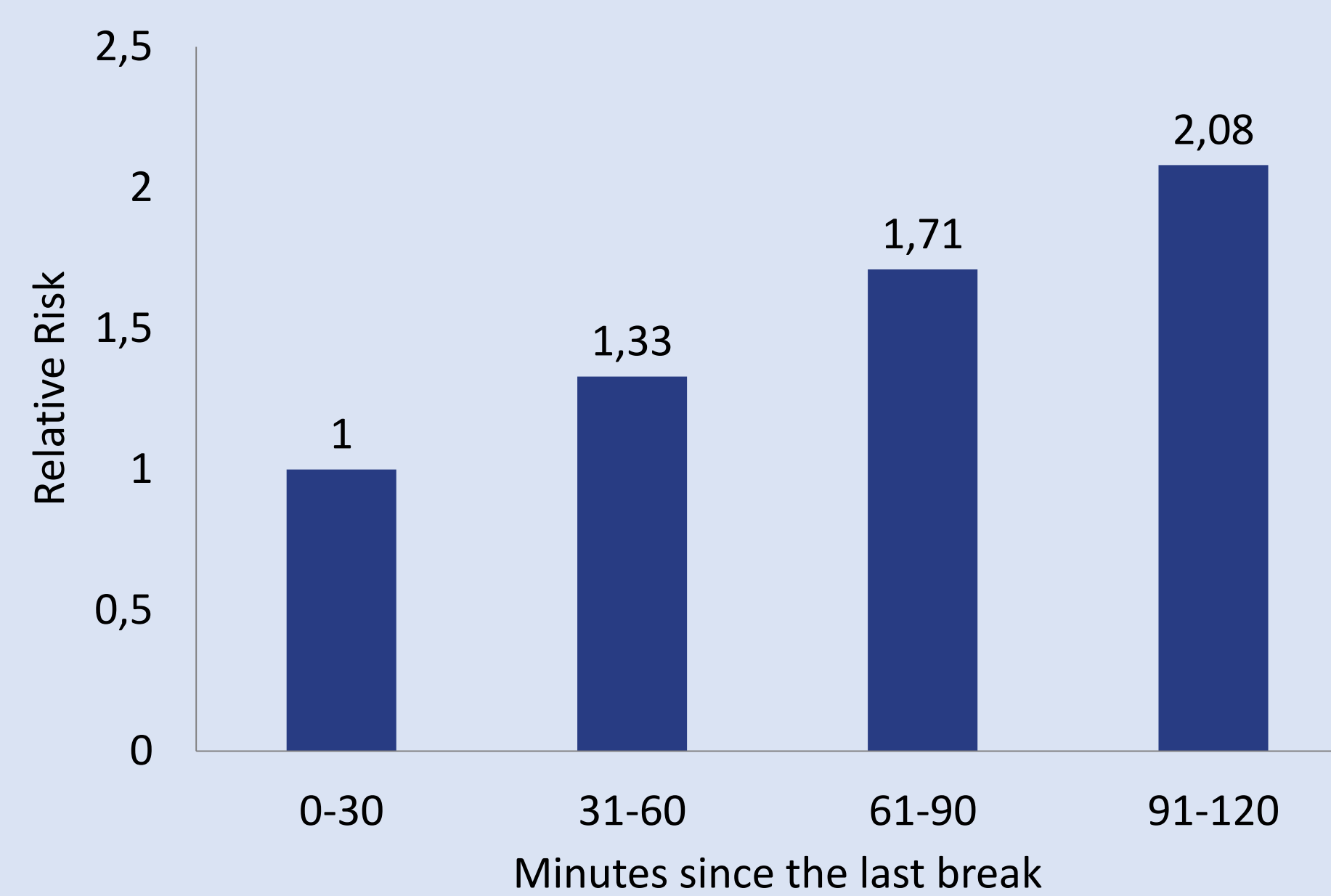
Consequences staff shortage [1]



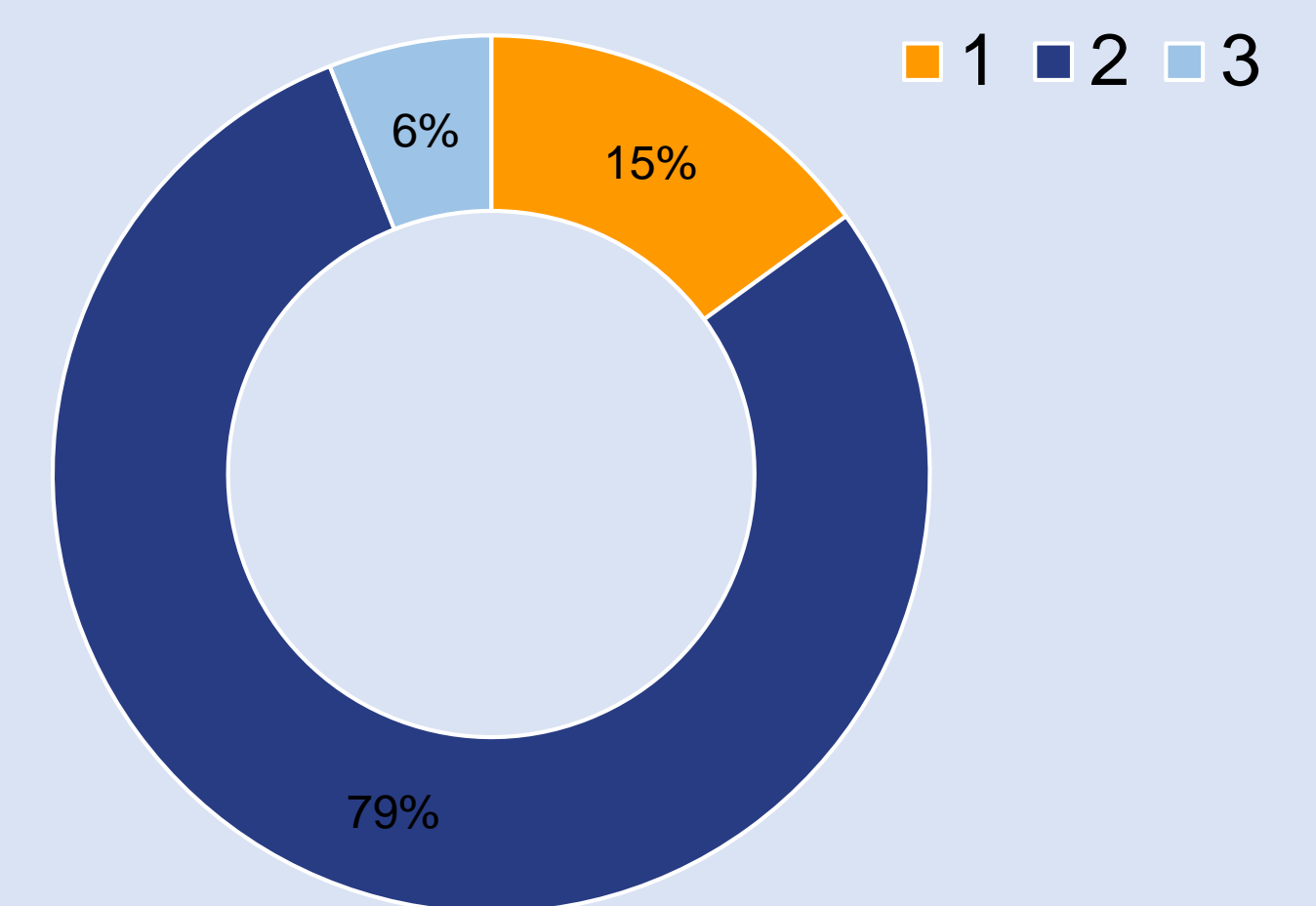
Break quality



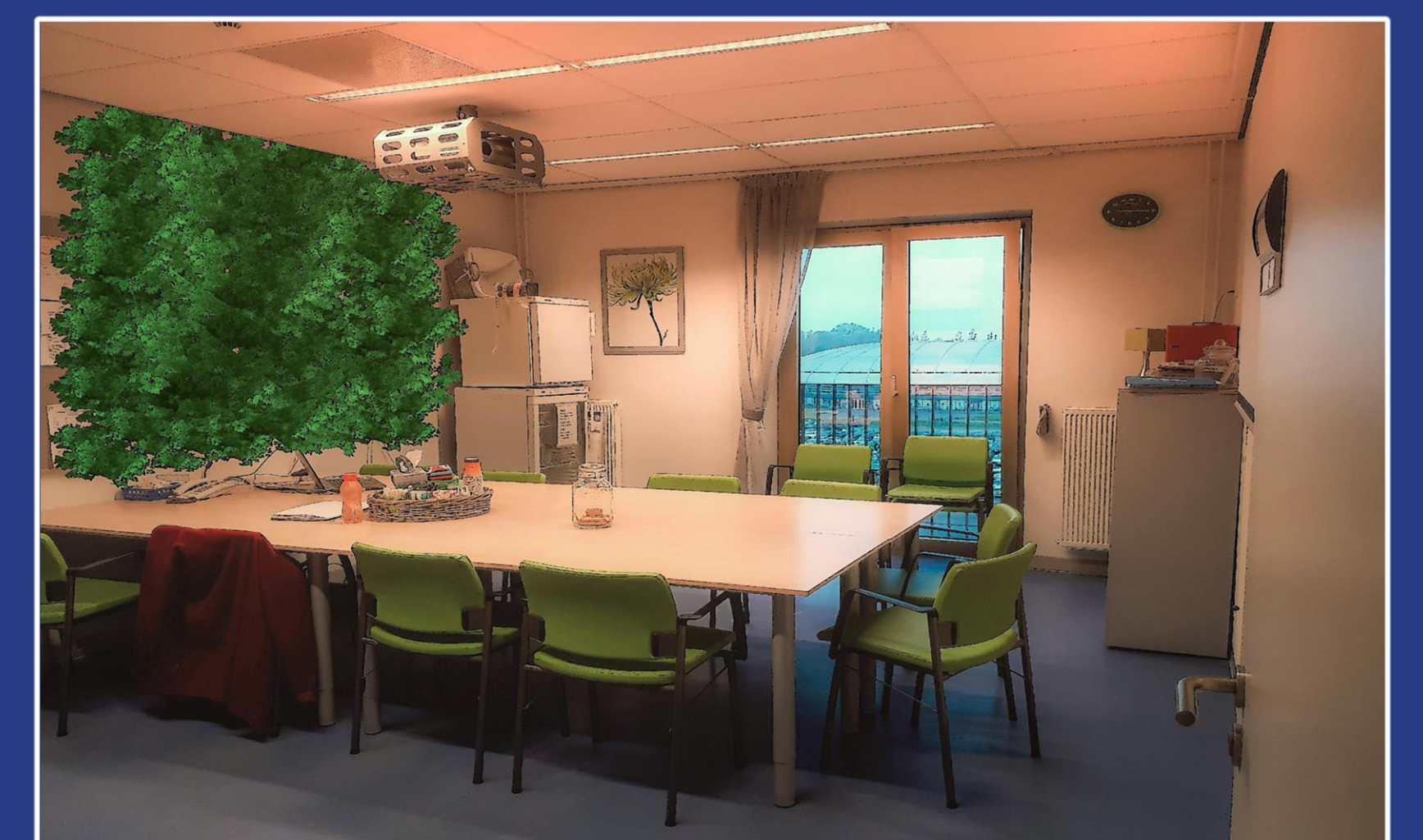
Tiredness and risk of erring [6]



Average number of breaks per day



## The break room before and after modifications



## Description of data

- A large scale study among nurses (N=17.000) by V&VN [1] showed that **85% suffers** from the **structural staff shortage**. 71% reports increased stress, 56% reports feeling guilty towards patients and 36% suffers from health complaints
- The **relative risk of erring** increases from 1.0 to 2.0 after two hours without a break [6]
- **Our survey** (N=32) among Dutch nurses showed that most nurses have **2 breaks a day**, with an average length of 15 minutes. 58% experiences noise nuisance. Additionally, 30% experiences the breaks as busy and restless and 25% is disturbed by work activities

## References

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