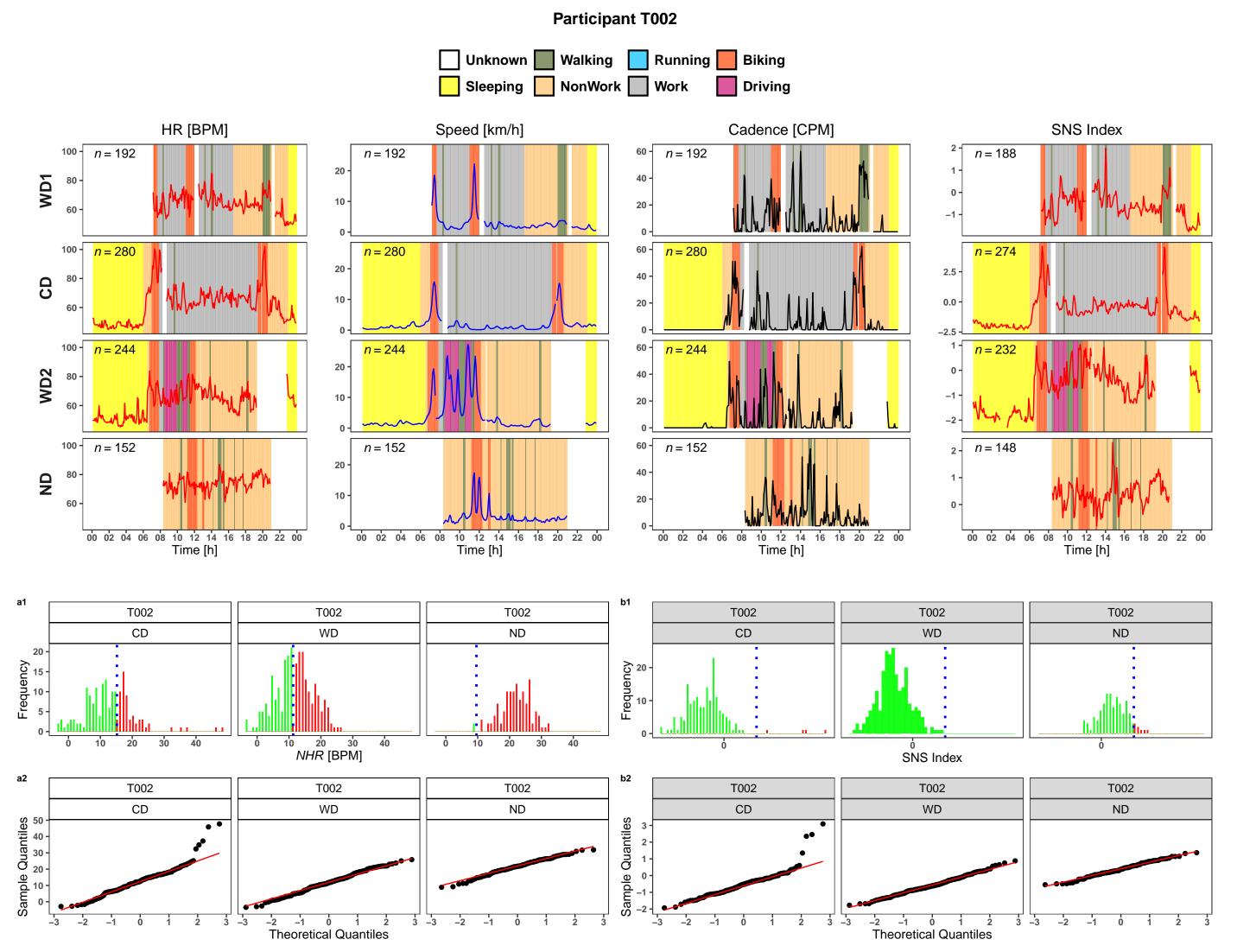


Debriefing: A special police force member and young father, experiences stress from unexpected on–call missions that extend his work hours and limit his recovery due to family responsibilities. On the critical workday, he protected a high–value detainee (HVD) and traveled long distances by helicopter and car. On his non–workday, he spent time with his family and assisted a friend in moving.



Debriefing: A special police force member and young father, struggles to balance his high work demands and family responsibilities, especially when mission schedules change unexpectedly. Coordinating with his wife, who has a demanding job, is a major stressor, often leading to disrupted sleep. He escorted a high–value detainee (HVD) to court on the critical workday. On his non–workday, the subject ran errands, walked with his family, and enjoyed a social evening with friends. However, he felt exhausted throughout the day.

Unknown Walking Running Biking **Driving** NonWork Work Sleeping HR [BPM] Cadence [CPM] **SNS Index** Speed [km/h] 160 n = 206n = 206n = 206n = 18775 60 15 -WD1 120 50 -40 10 -25 20 100 160 80 n = 249n = 249n = 249n = 17175 60 CD 50 40 25 20 100 -160 80 n = 273n = 273n = 273n = 24375 60 WD2 10 -50 -40 25 20 160 100 n = 15580 n = 150n = 155n = 15515 -75 60 2 10 -50 40 80 25 20 00 02 04 06 08 10 12 14 16 18 20 22 00 00 02 04 06 08 10 12 14 16 18 20 22 00 00 02 04 06 18 20 22 00 00 02 04 06 16 18 20 22 00 10 12 14 08 Time [h] Time [h] Time [h] Time [h] b1 T003 T003 T003 T003 T003 T003 CD WD ND CD ND WD Frequency 10 Frequency or or 10 20 30 40 NHR [BPM] 20 30 20 **SNS Index** b2 T003 T003 T003 T003 T003 T003 CD WD ND CD WD ND Sample Quantiles 3 Theoretical Quantiles $\frac{1}{2}$ $\frac{1}{1}$ $\frac{1}{0}$ $\frac{1}{1}$ $\frac{1}{2}$ Theoretical Quantiles -1

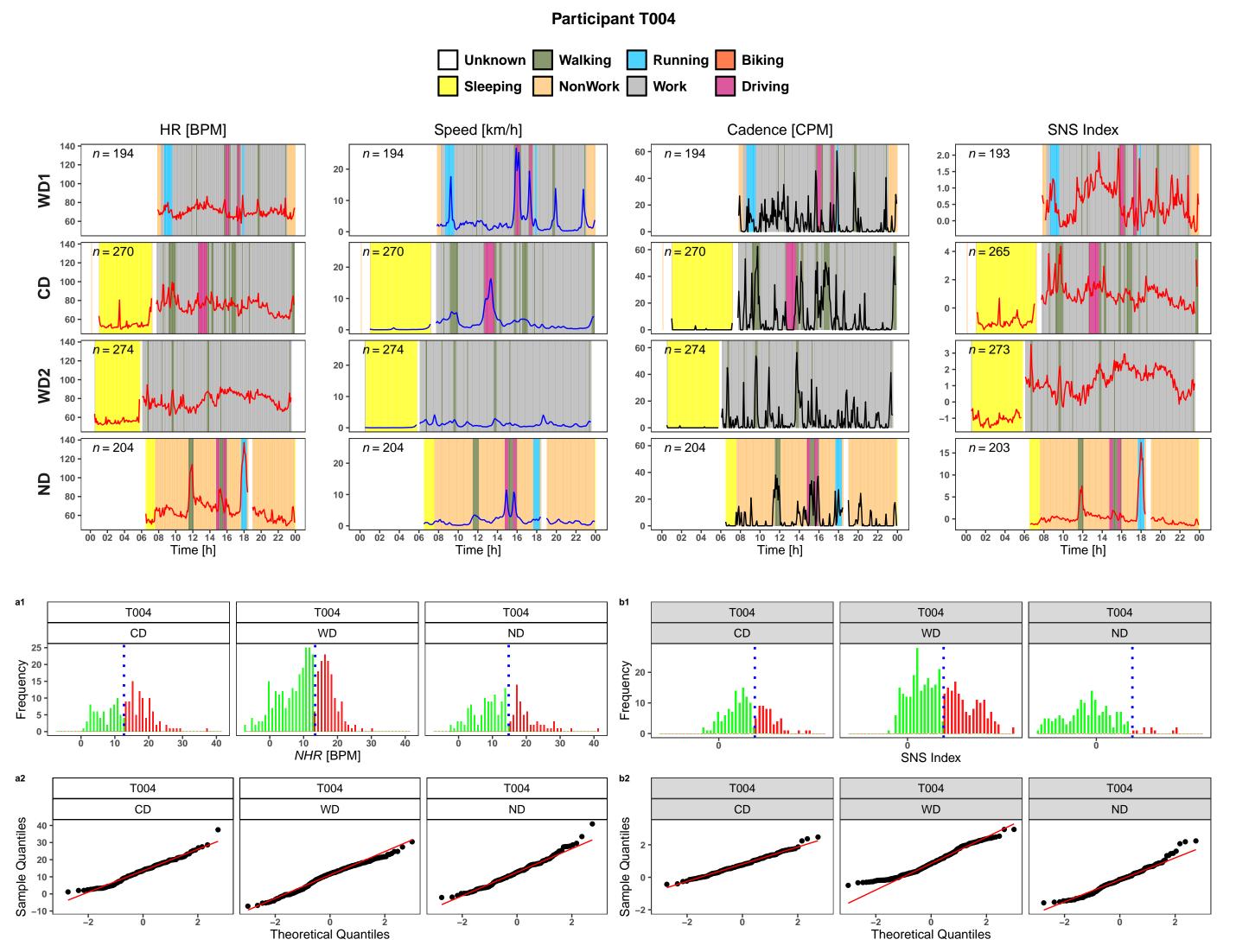
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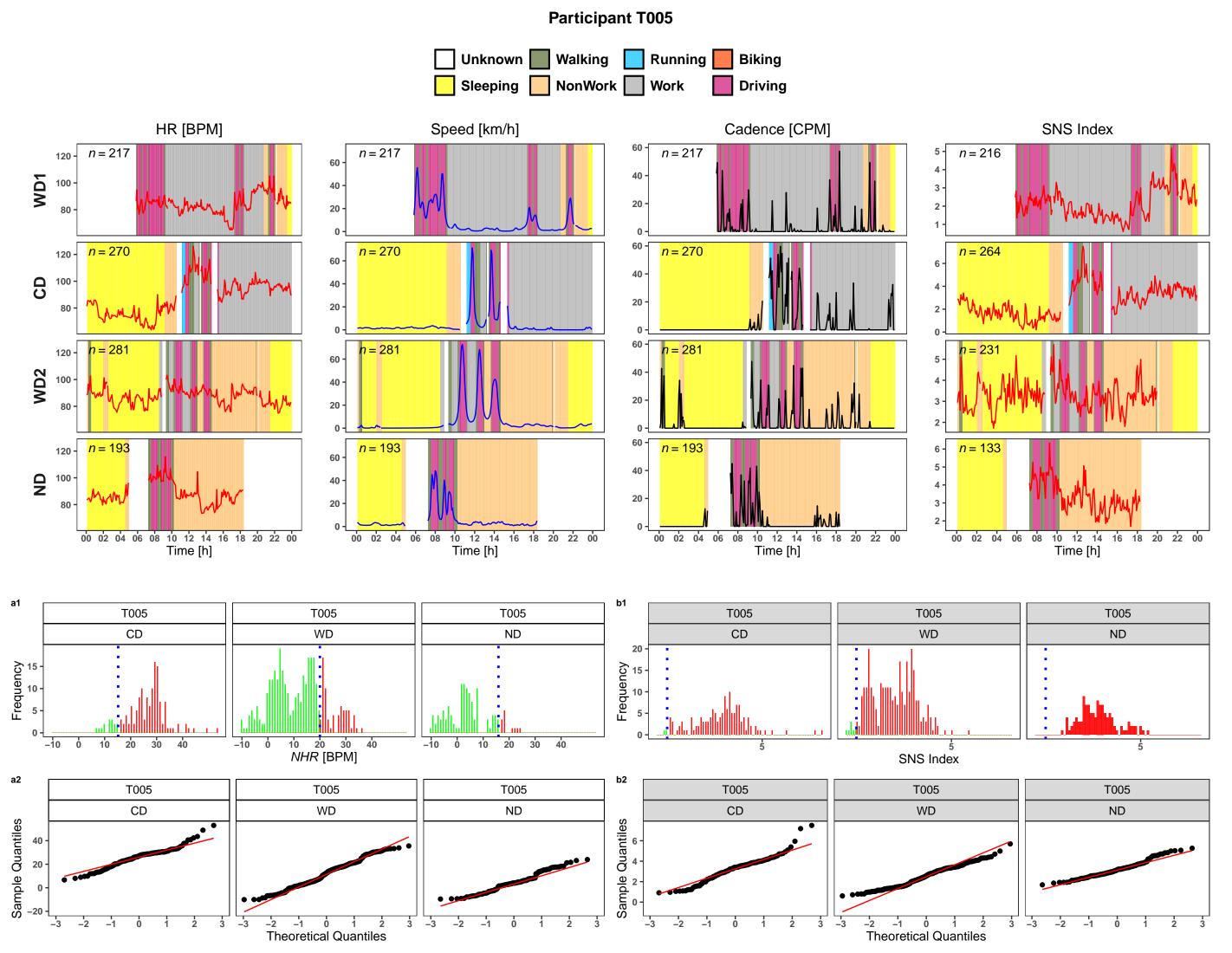
Sample Quantiles

Participant T003

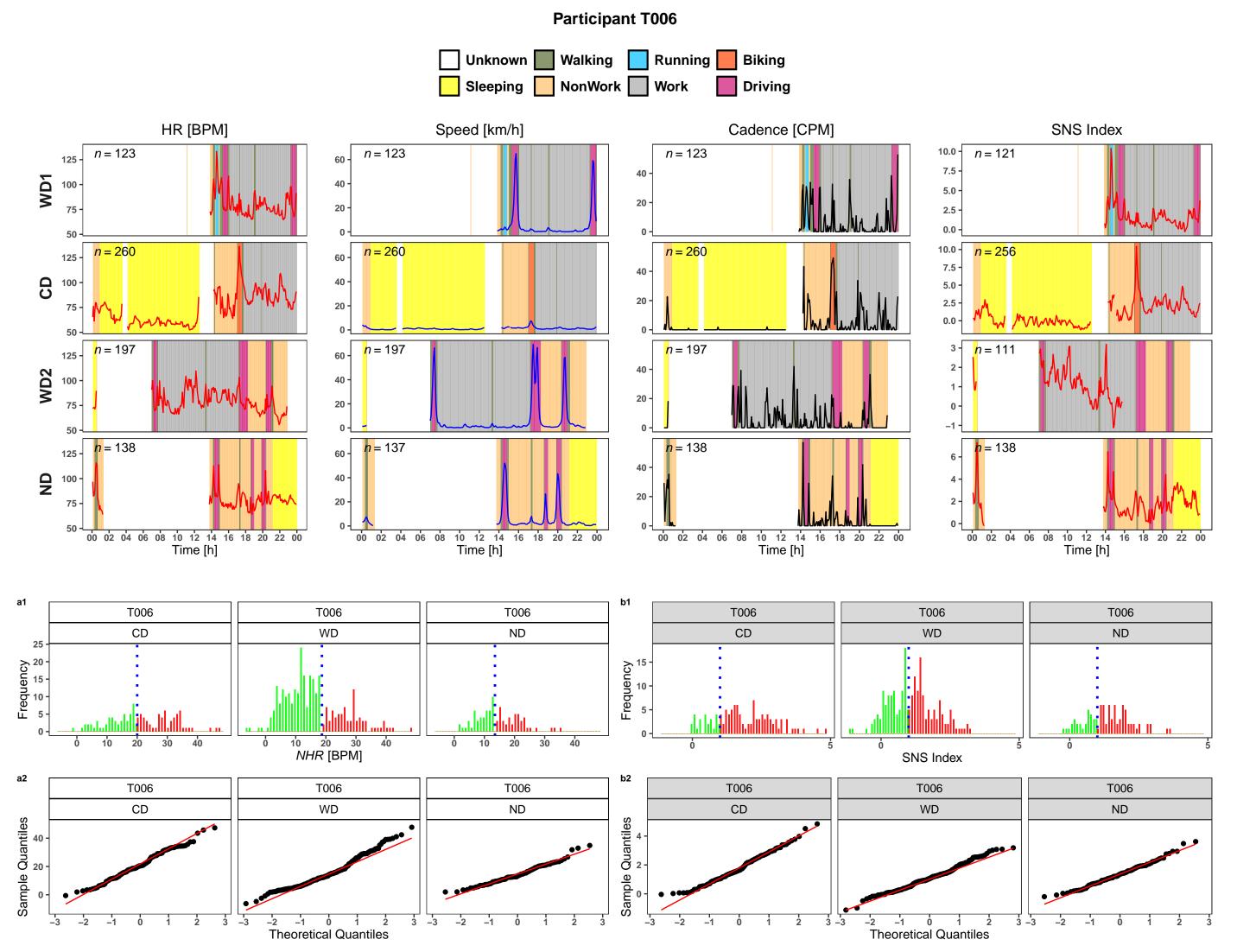
Debriefing: A special police force member and young father, finds schedule changes stressful, particularly when they require adjustments to family duties. On the critical workday, he was part of the team escorting a high-value detainee (HVD) to court, traveling by car, and returning home after the operation. On his non-workday, the subject went for a run, ran errands, and spent time with his family. He valued the downtime with his wife and felt eustress from his kids' love and affection.



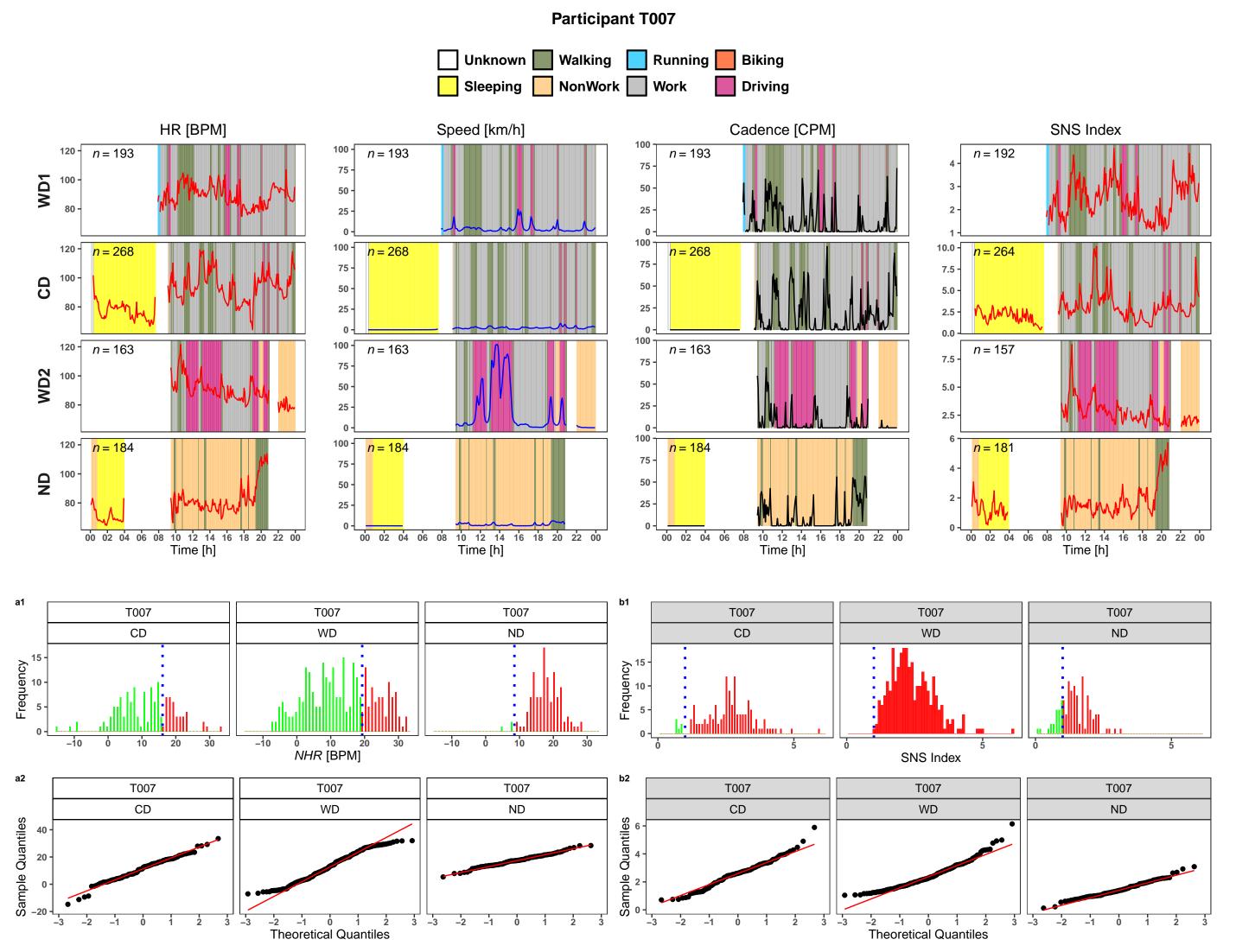
Debriefing: A a special police force member and young father, faces high cognitive load and stress due to last–minute mission changes and the challenge of coordinating with international security teams for VIP protection. On the critical workday, he provided security for a high–profile VIP at a global conference, experiencing a peak in stress when the VIP's landing clearance was delayed, requiring rapid adjustments to the escorting plans. During the non–workday, he balanced stress with active physical activity, such as spending time in the snow with his family and indoor cycling.



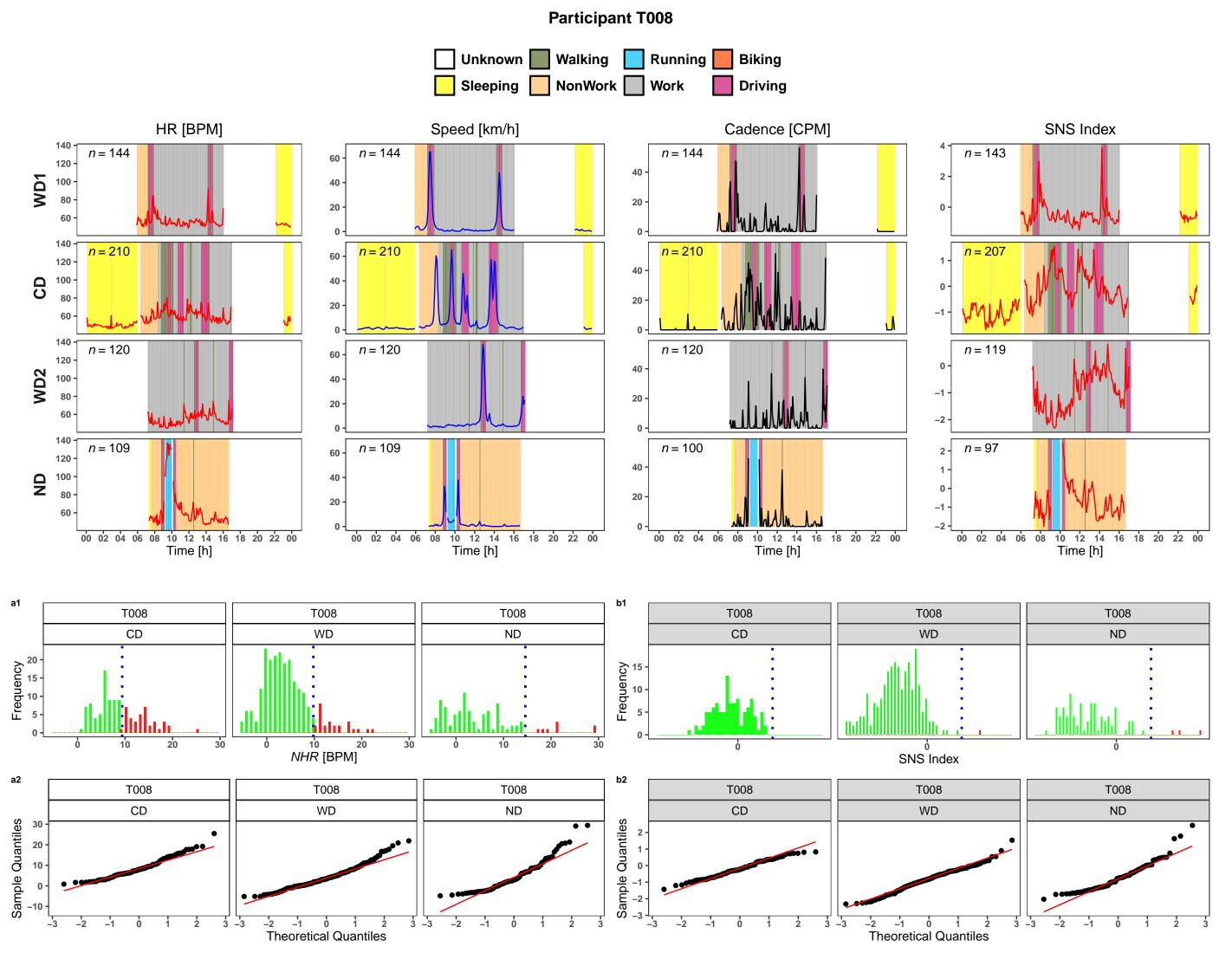
Debriefing: A special police force member with one teenage kid who only partially lives with him. T005 is dealing with the emotional strain of an ongoing divorce, which is further complicated by the unpredictable, high–alert nature of his missions. On the critical workday, he was assigned to monitor a person of interest (POI) at a public event, where he had to observe interactions throughout the night. Stress from a personal argument with his ex–partner negatively affected his focus during mission preparation. He spent most of his non–workday at home to recover from this stress. He felt emotionally and physically drained and tried to rest by watching TV.



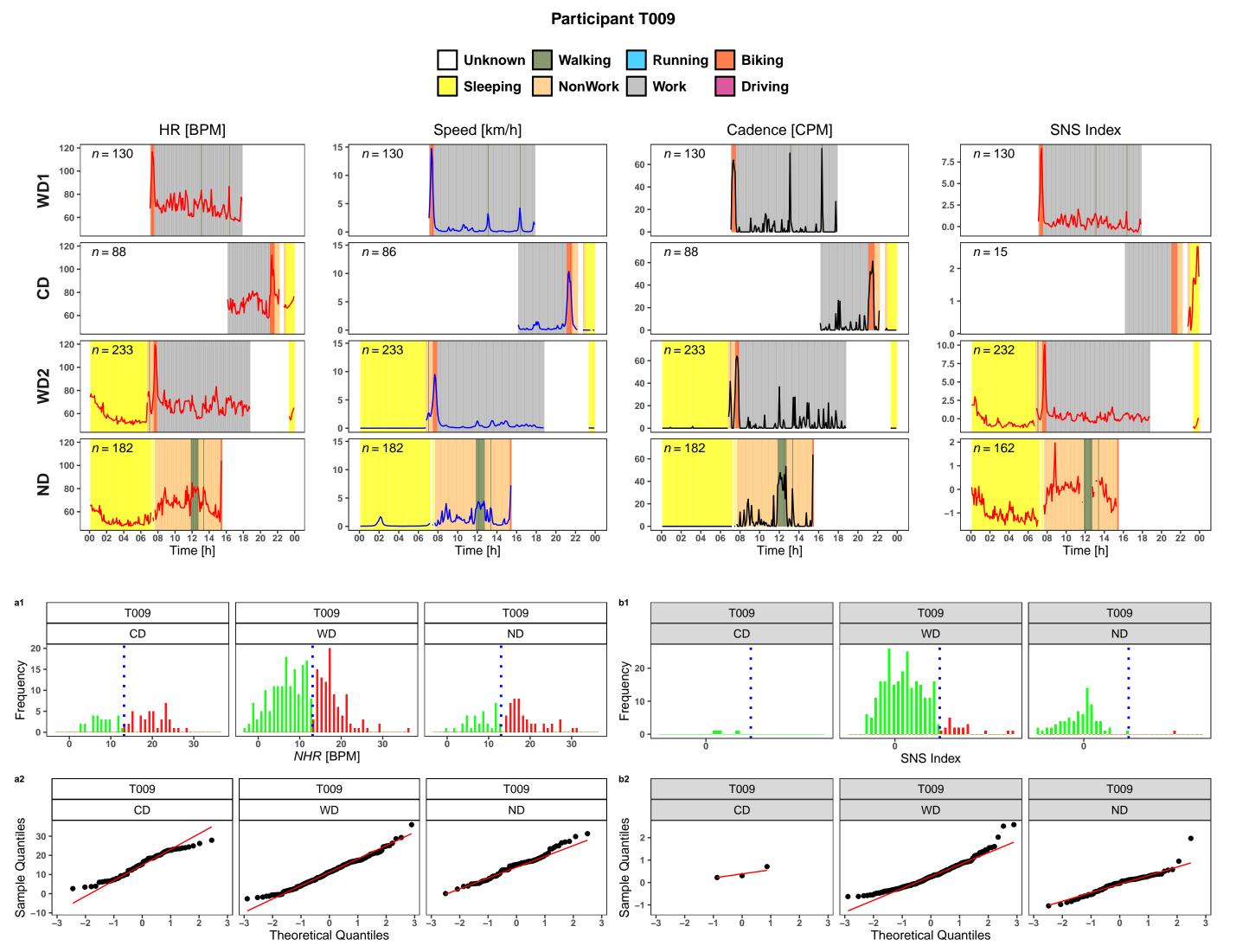
Debriefing: A young emergency doctor without children who struggles with stress from high–stakes situations and conflicts with her romantic partner, which affect her relaxation, mood, and sleep. On the critical workday, she monitored a large–scale event where she led the emergency team. She responded to a woman who collapsed, managing first aid in a crowded setting. During her non–workday, a disagreement with her partner left her feeling sad and disrupted her sleep, reflected in the high cognitive load indicated in her end–of–the–day questionnaire.



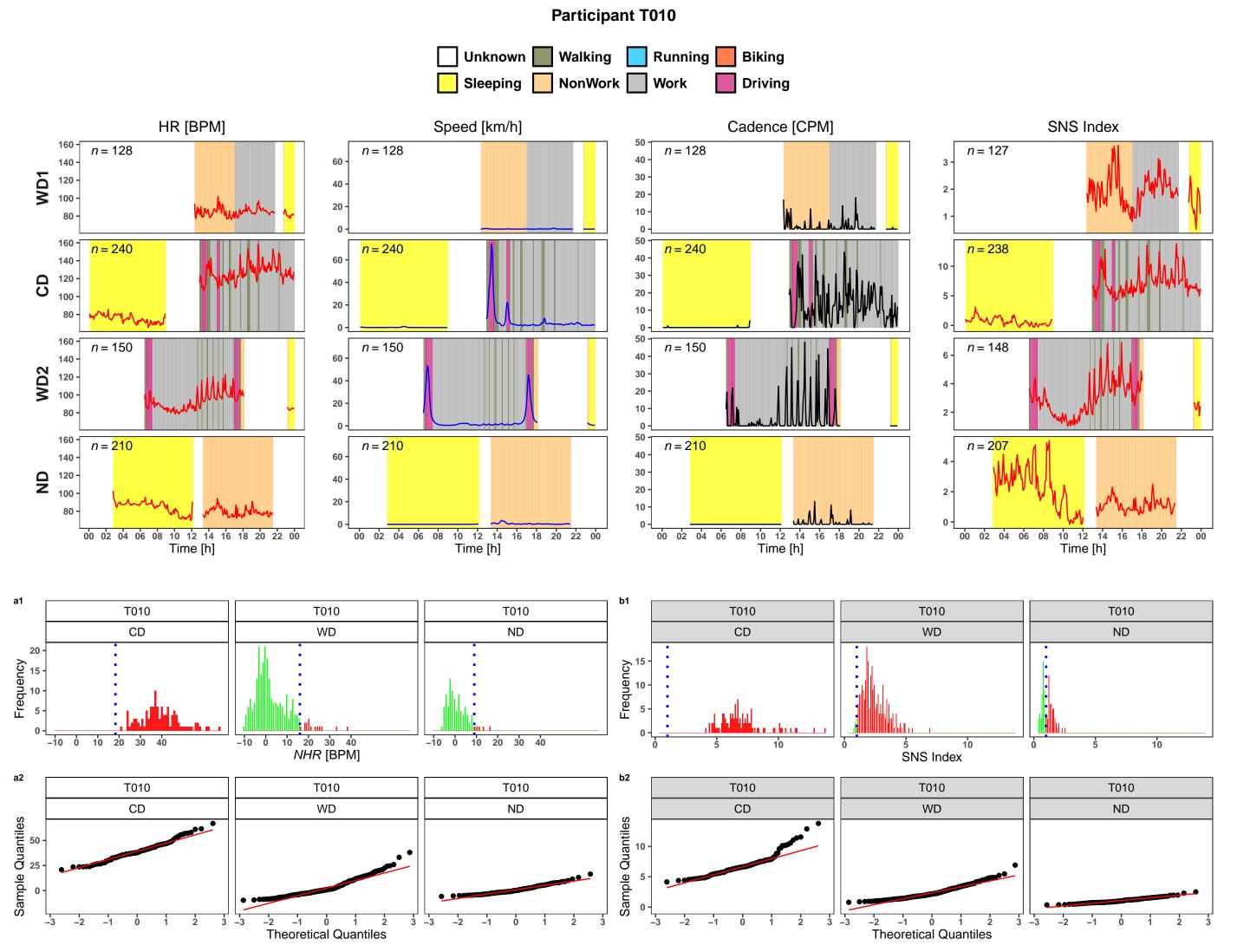
Debriefing: A special police force member without children. He faces significant cognitive load due to long hours, mission–related stress, and poor sleep in temporary accommodations. On the critical workday, he provided VIP protection at an international conference, which required constant vigilance and quick adjustments to changing security conditions. After the mission, he joined his team for a social gathering with drinks. On his non–workday, he slept in, called his partner, ran errands like cleaning his car, and enjoyed a relaxing day that included a workout at the gym.



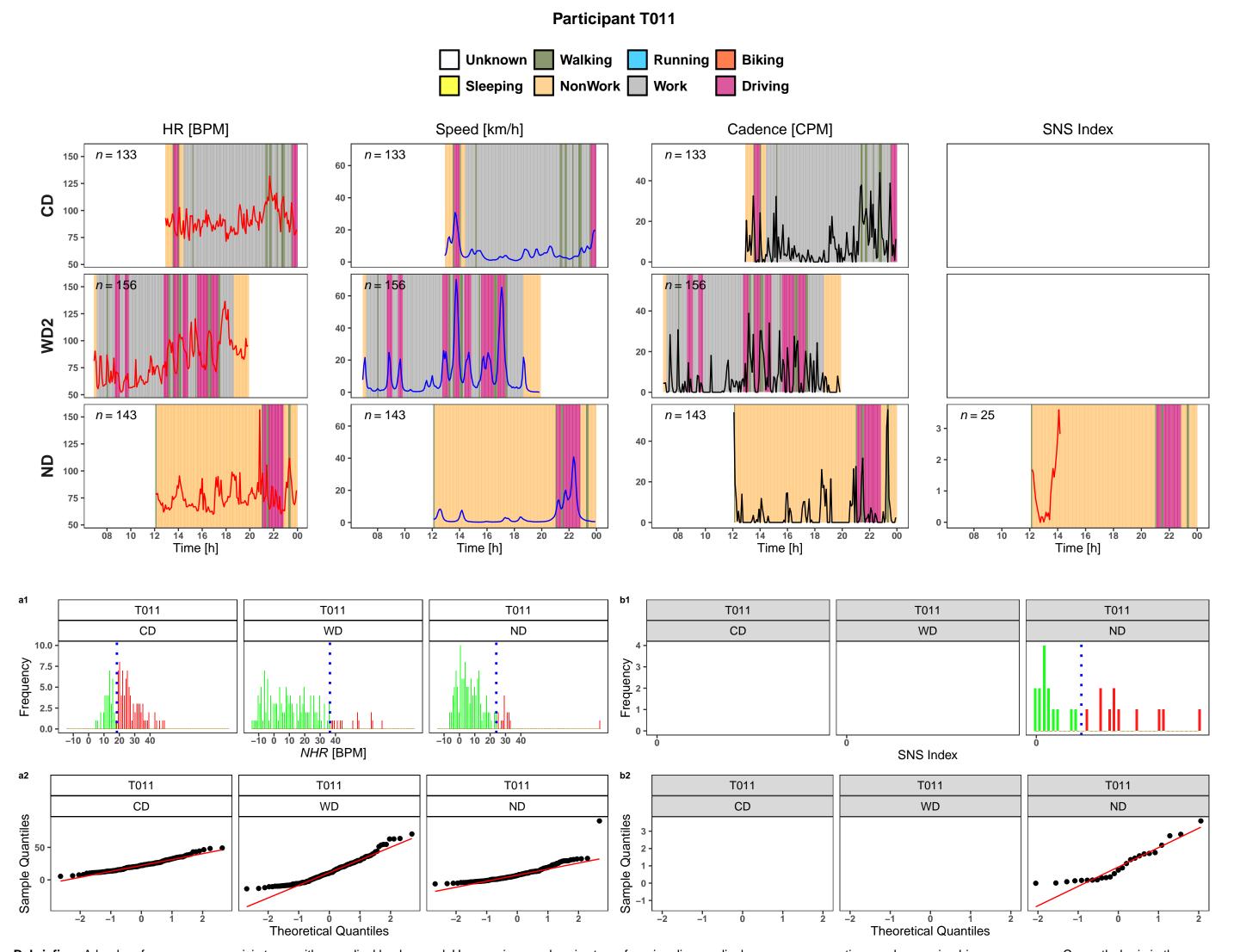
Debriefing: An experienced crisis leader of a psychiatric emergency unit. His main stressors stem from crises requiring rapid decision–making, particularly technical failures that risk patient safety. He was monitored during his on–call period, a period where he usually feels unease due to unpredictability. On the critical workday, he managed an ICT crisis that left over 100 patients without emergency alert capabilities, requiring immediate interventions. Although he successfully resolved the issue around midnight, the high–pressure coordination left him mentally exhausted. To recover, he swam and spent time playing with his grandson. They also took a nap together.



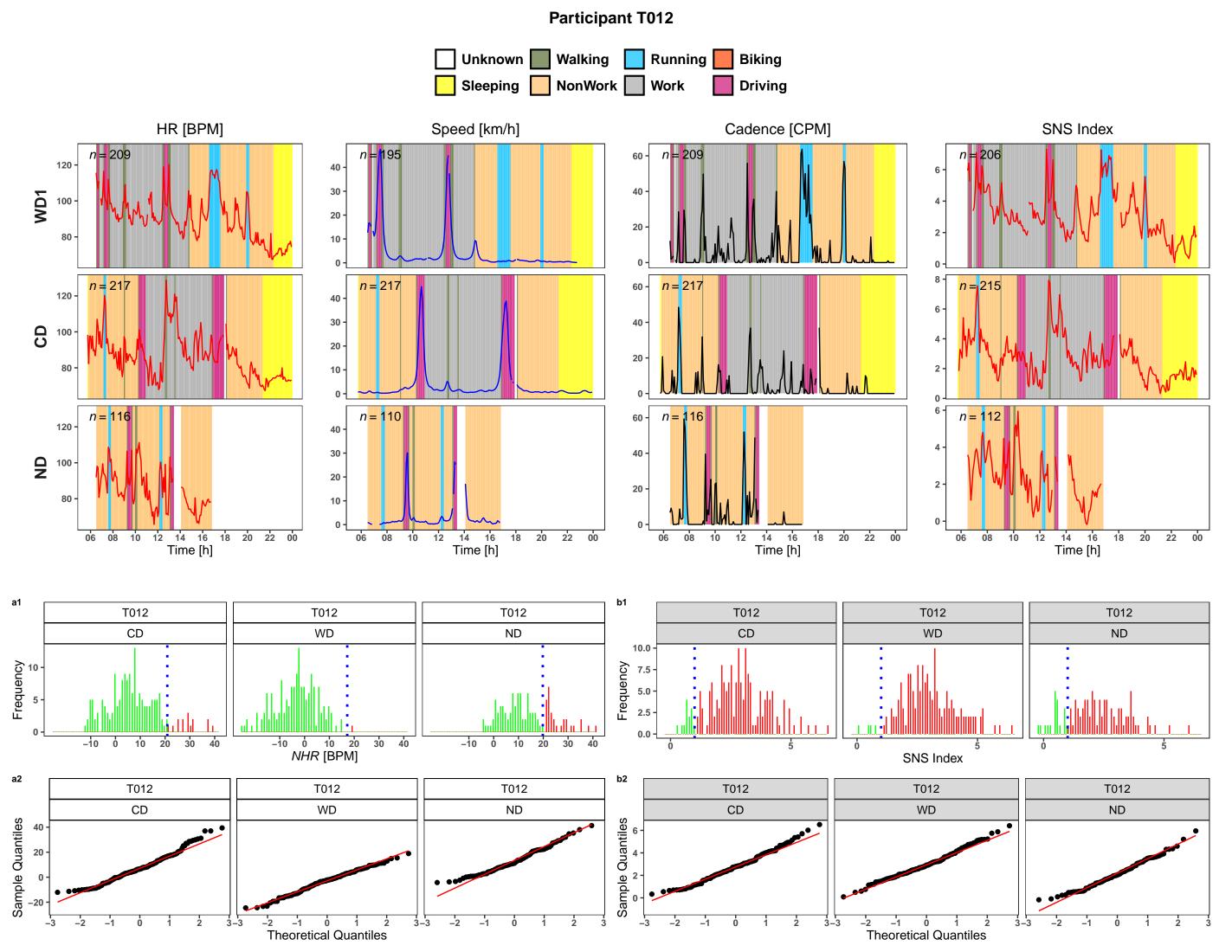
Debriefing: A young emergency doctor. He experienced stress from emergency simulations and encountered a significant conflict with his romantic partner during his non–workday. This tension affected both his emotional well–being and sleep quality. On the critical workday, he worked an intense 12–hour shift, leading multiple emergency simulations and performing non–routine medical procedures. Despite the high pressure, he received positive feedback for his leadership skills. His non–workday began with another argument with his partner, which caused frustration. After the argument, his partner left, and he took some time to unwind and walk the dog. Around lunchtime, data collection was interrupted due to a low battery.



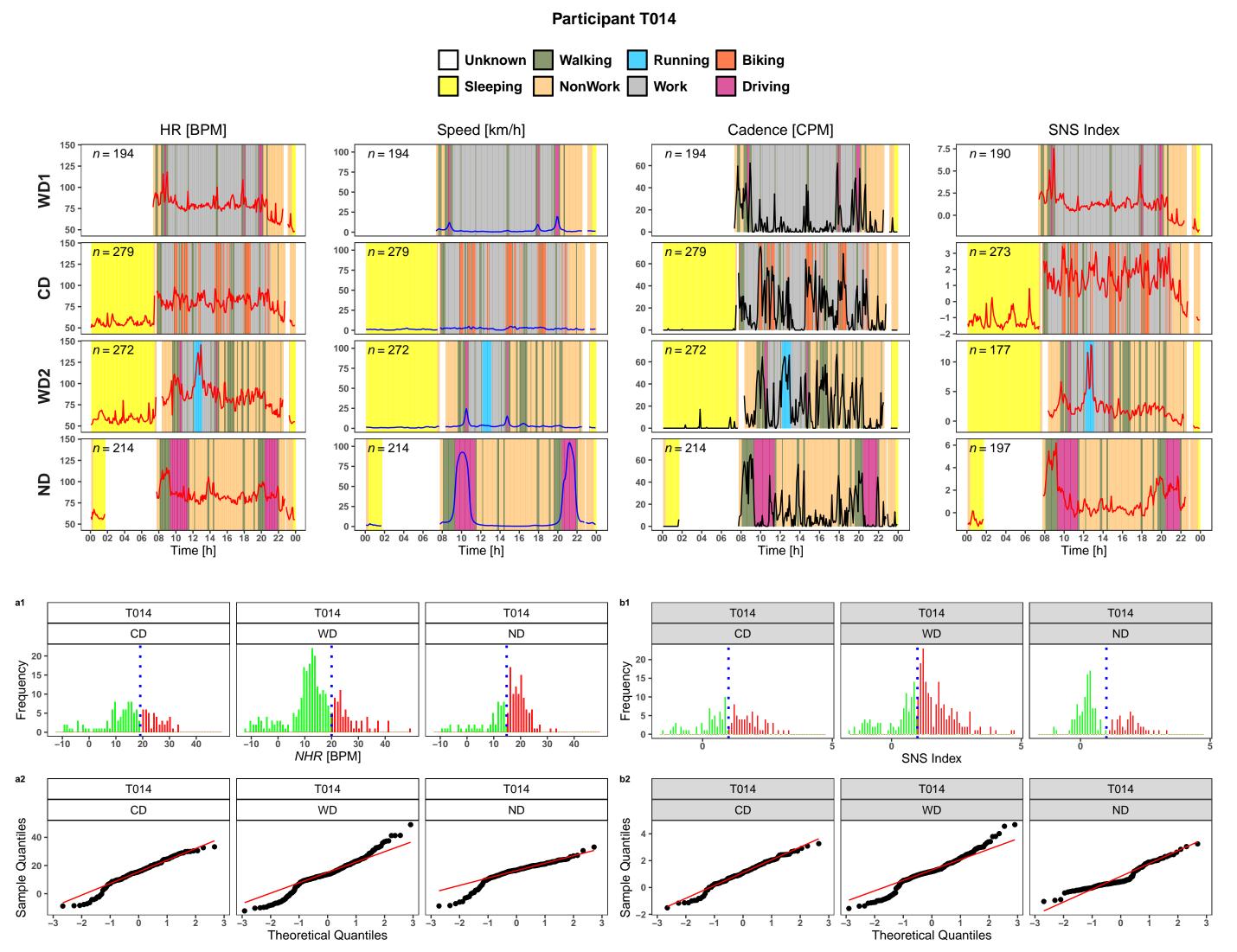
Debriefing: An emergency doctor and crisis leader. He experiences extreme stress during high–risk emergency response missions, particularly due to limited resources and staff shortages. On the critical workday, he led medical operations during a large–scale festival, handling numerous intoxication cases and an emergency CPR for a 14–year–old girl. The mission's intensity left him physically and emotionally drained. For recovery, he detached by playing Xbox and enjoyed preparing a BBQ.



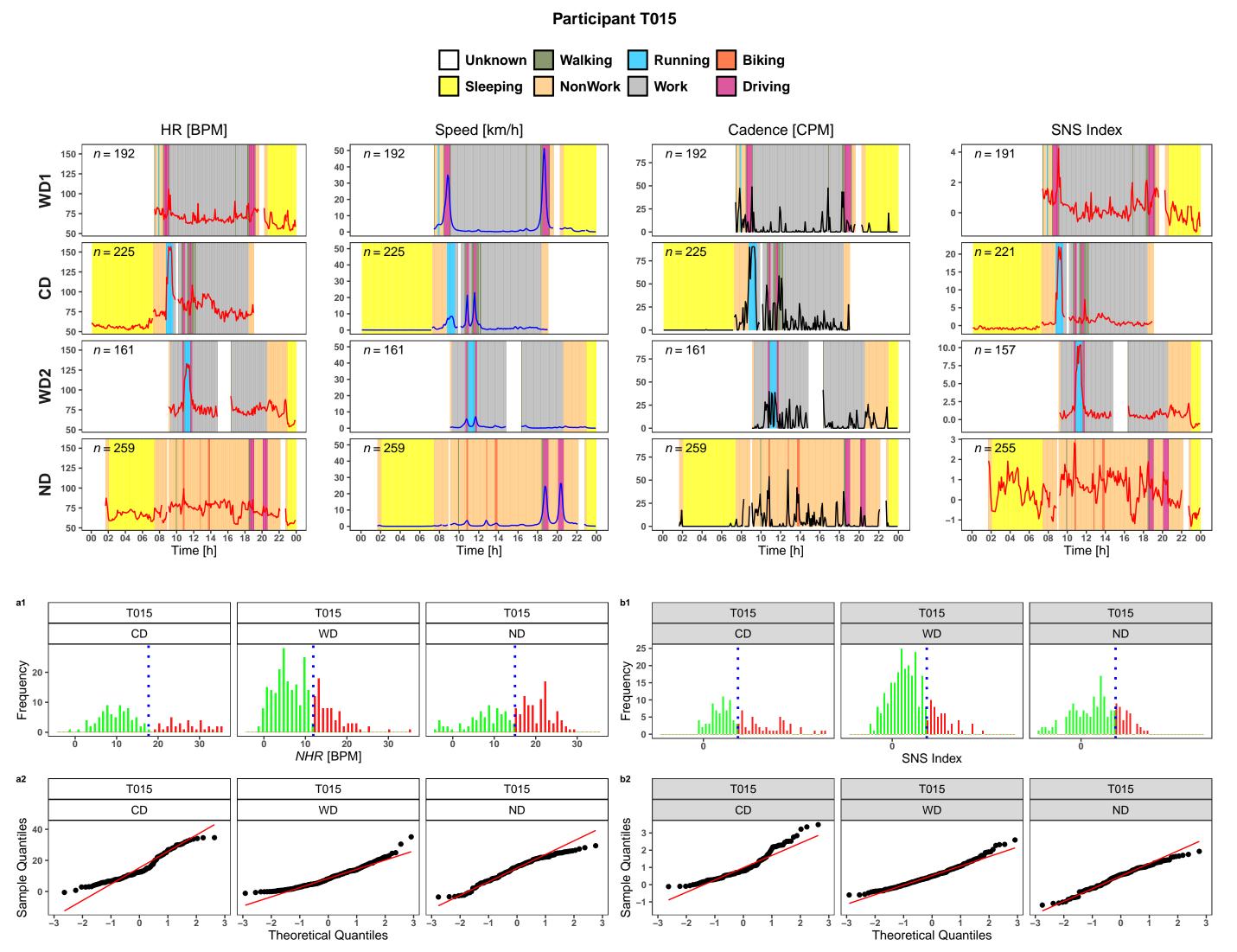
Debriefing: A leader of an emergency crisis team with a medical background. He experiences chronic stress from juggling medical emergency operations and managing his own company. Currently, he is in the process of selling part of his business due to burnout. On the critical workday, he handled high–stress emergencies, treating 46 patients on the side of a festival. At the same time, he coordinated the emergency logistics in a chaotic side environment. During the data collection, opportunities for recovery were limited; however, he found brief moments of mental respite between the medical cases. On his non–workday, he relaxed on the couch and spent quality time cuddling with his kids in the morning. However, he had to dedicate some time to cleaning work equipment in the afternoon.



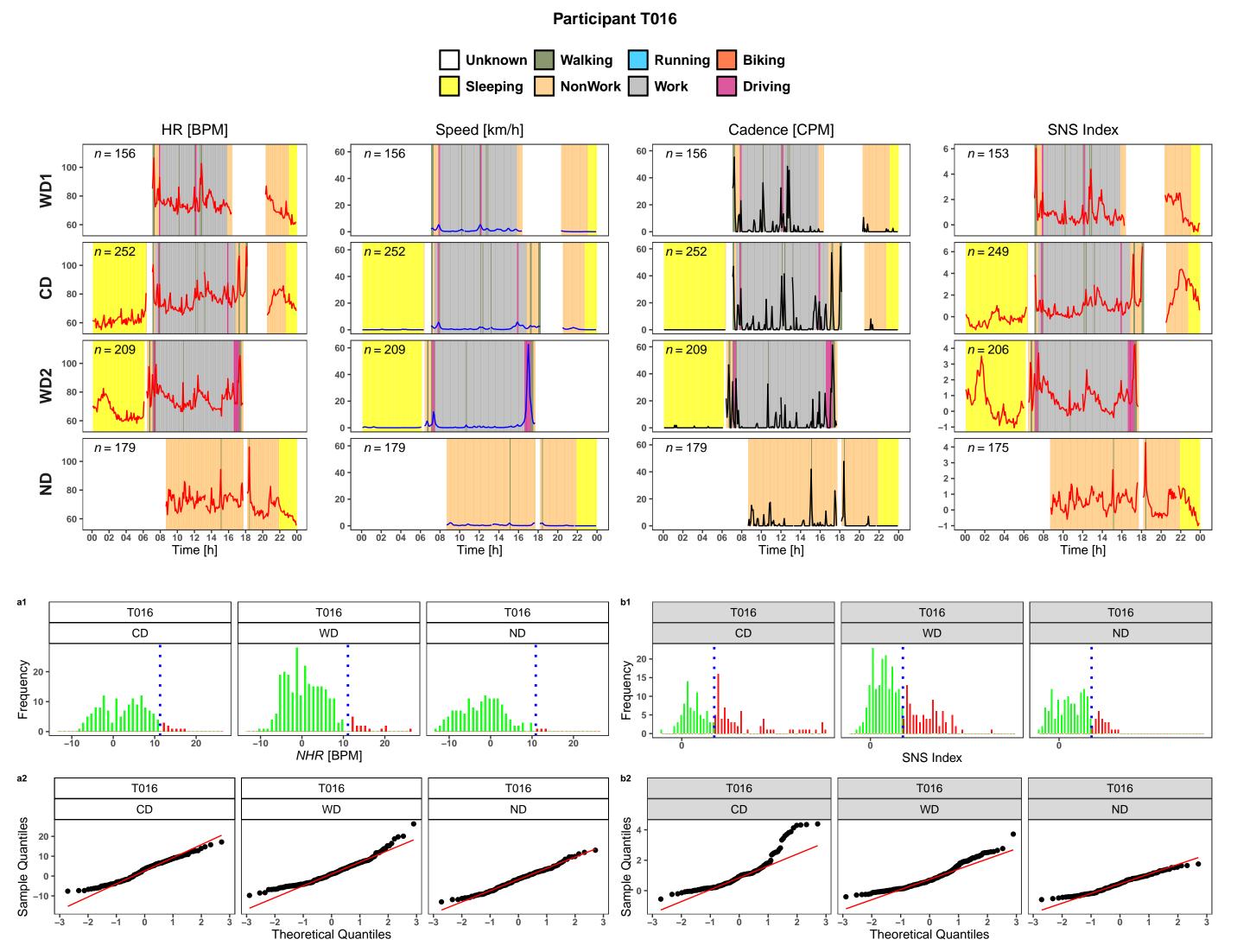
Debriefing: The head of the crisis department at a large hospital. She is responsible for managing complex hospital crises, including a critical ICT failure that disrupted patient care and a tragic incident in which a hospital employee was stabbed, resulting in the employee's death. The emotional toll from these events has been severe, impacting her ability to sleep and detach from her work. On the critical workday, she dealt with these intense crises, which required continuous decision–making under stress. To cope, she engaged in activities such as sauna sessions, yoga, and pilates on her non–workday. However, after dealing with the critical incident, she experienced a paradox: although she was physically and mentally exhausted, she found it difficult to relax and felt restless instead.



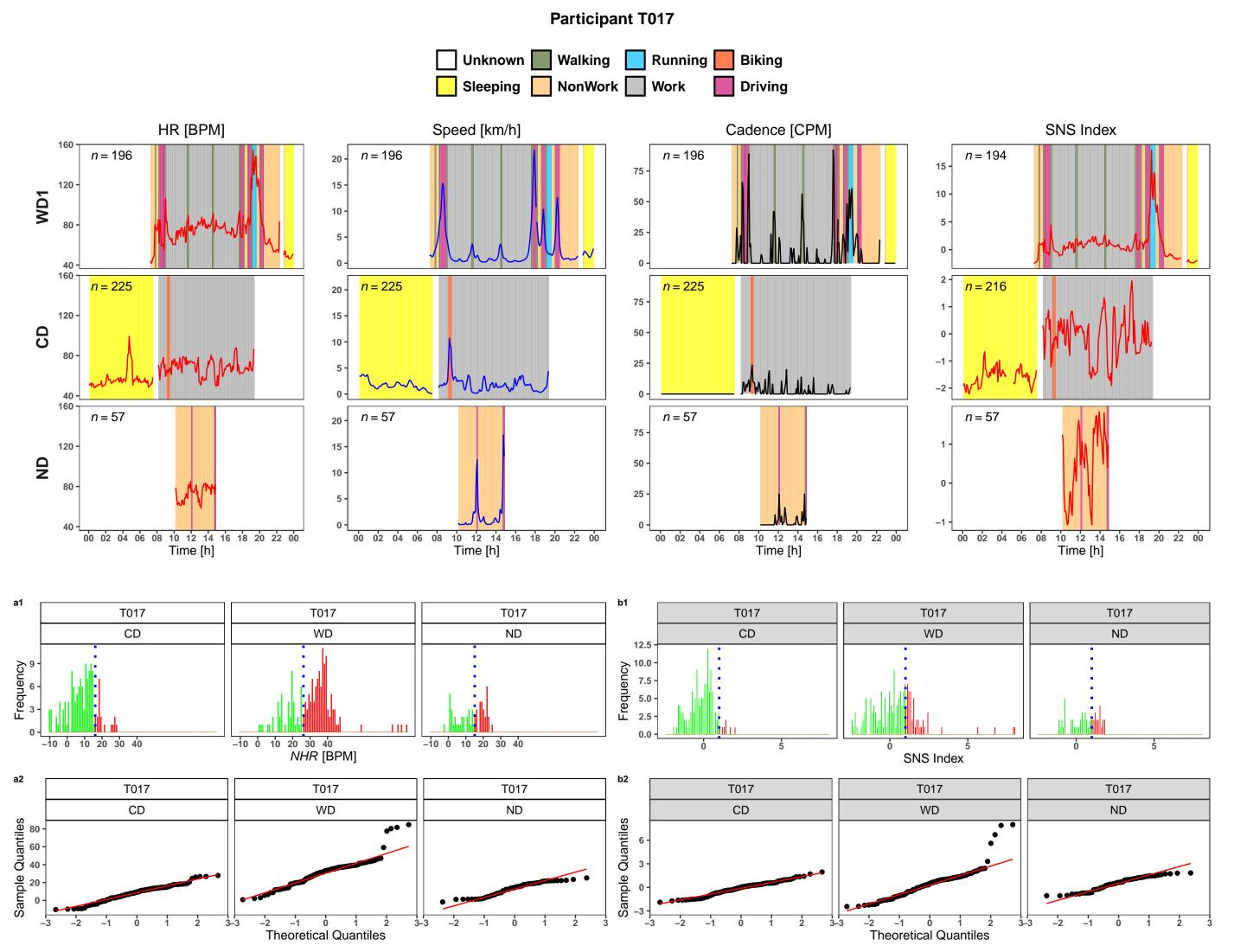
Debriefing: A crisis leader in an emergency unit, currently in her late 30s and juggling the responsibilities of raising two young children. She faces significant stress from balancing her demanding role with unpredictable on–call work and the challenges of parenting. Last–minute schedule changes add to her strain. On the critical workday, she managed an ICT crisis remotely while also caring for her children, which increased her stress levels. After a poor night's sleep of only 6 hours and 20 minutes, she woke up early to prepare her kids for a family trip to visit relatives. Overall, her opportunities for recovery on her non–workday were limited due to parenting demands, but she did enjoy a sunny day outdoors with her family.



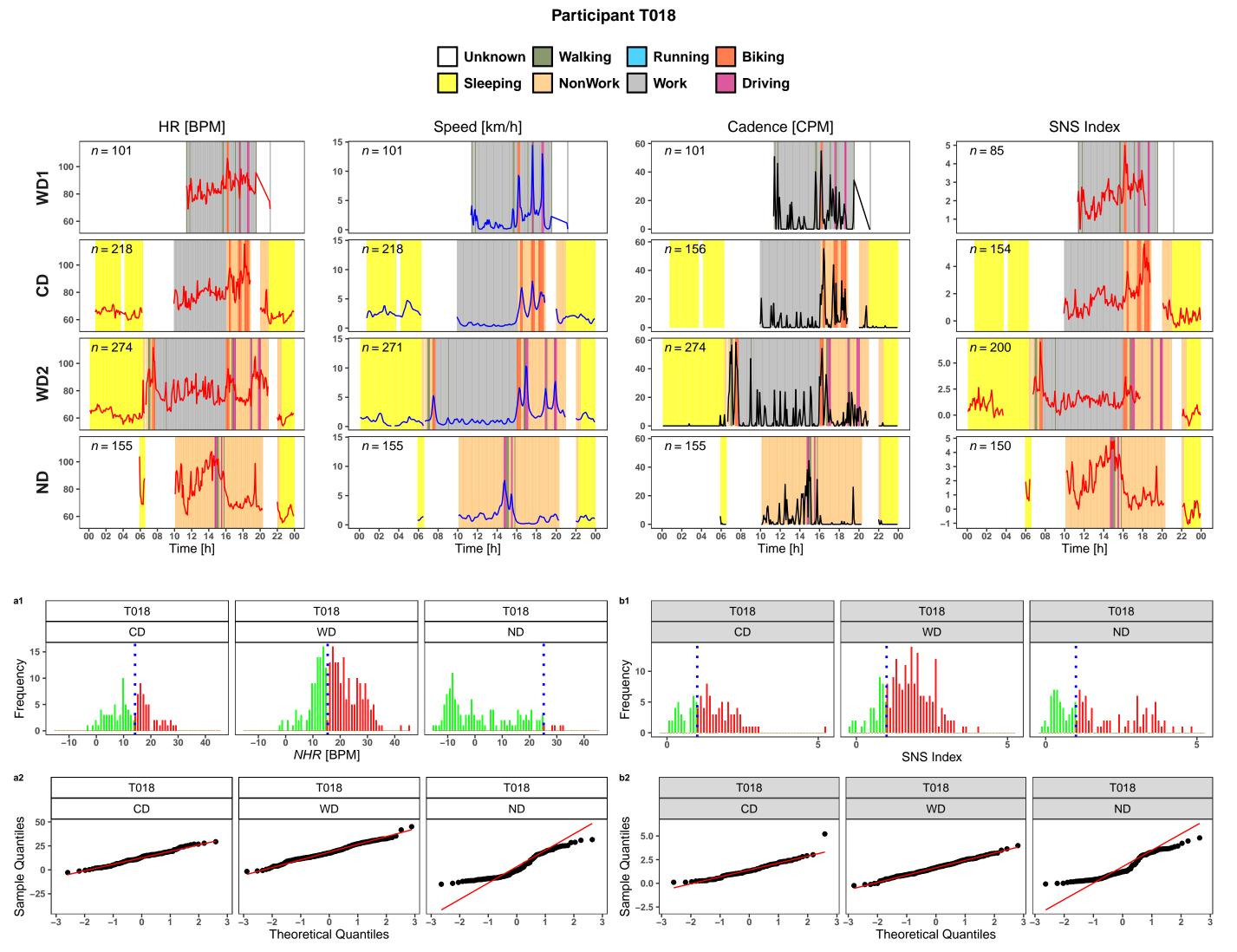
Debriefing: A crisis leader in an emergency unit who deals with significant stress from managing crises while balancing project deadlines and family responsibilities. She has three kids, making it difficult to disconnect from work, especially when multiple roles demand her attention. On the critical workday, she handled an on–call crisis while finalizing project reports and caring for her kids, which added to her cognitive load. Fortunately, she was able to sleep in on her non–workday. During the day, she visited her mother and dropped off her son at his football game, where the team won. She traveled some distances by car and bike and spent time doing chores such as cleaning the house. She also enjoyed gardening, managed to squeeze in a workout, and cherished time with her children.



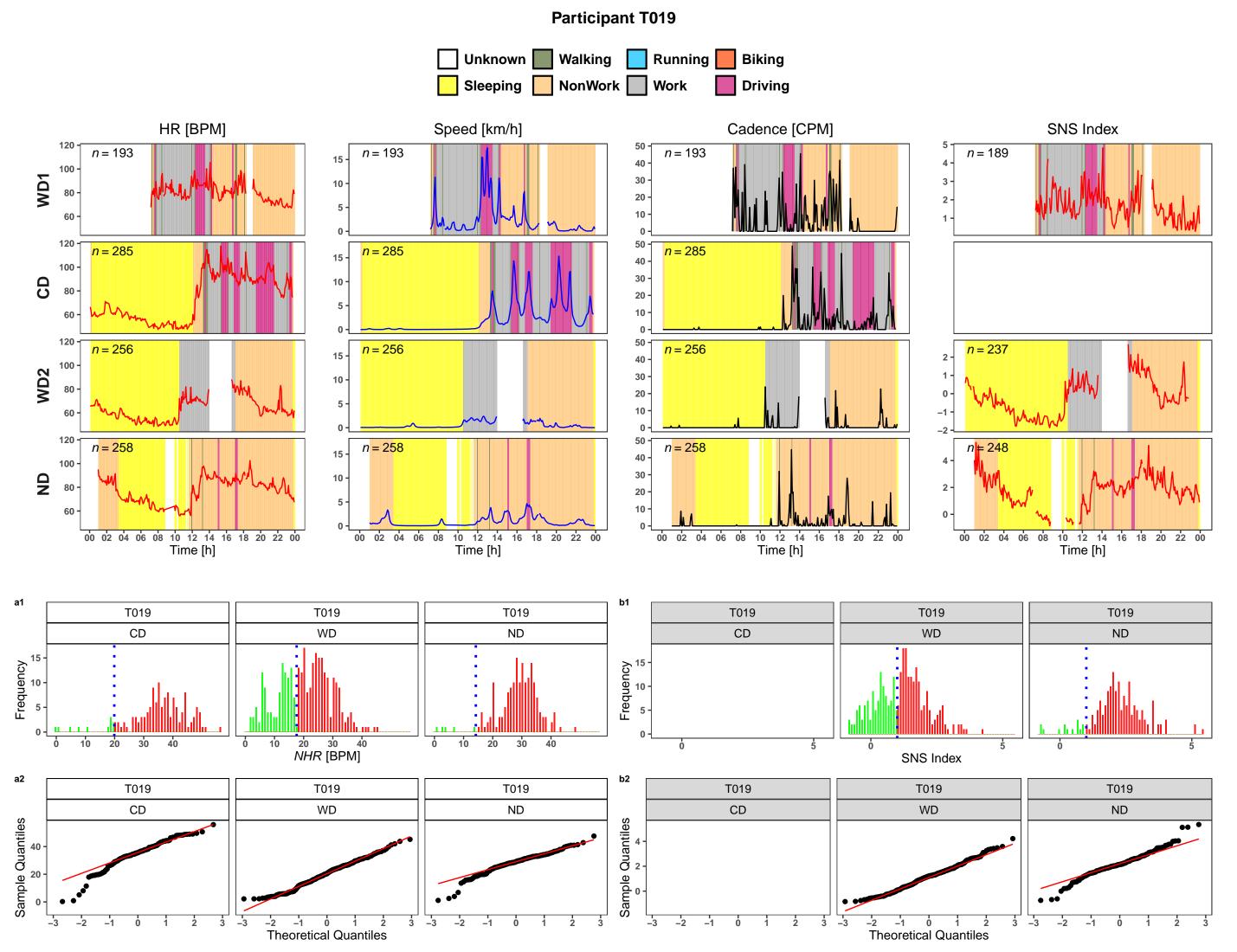
Debriefing: A crisis leader in an emergency unit. He finds unexpected IT issues to be a significant source of stress, as they disrupt his workflow and require immediate problem–solving under time pressure. He experienced a particularly stressful management meeting on the critical workday and resolved a major IT issue. On his non–workday, he preferred spending quiet moments at home, visiting his parents, and watching nature documentaries to recover from the cognitive load. He used a sleep–assisting breathing robot during the data collection.



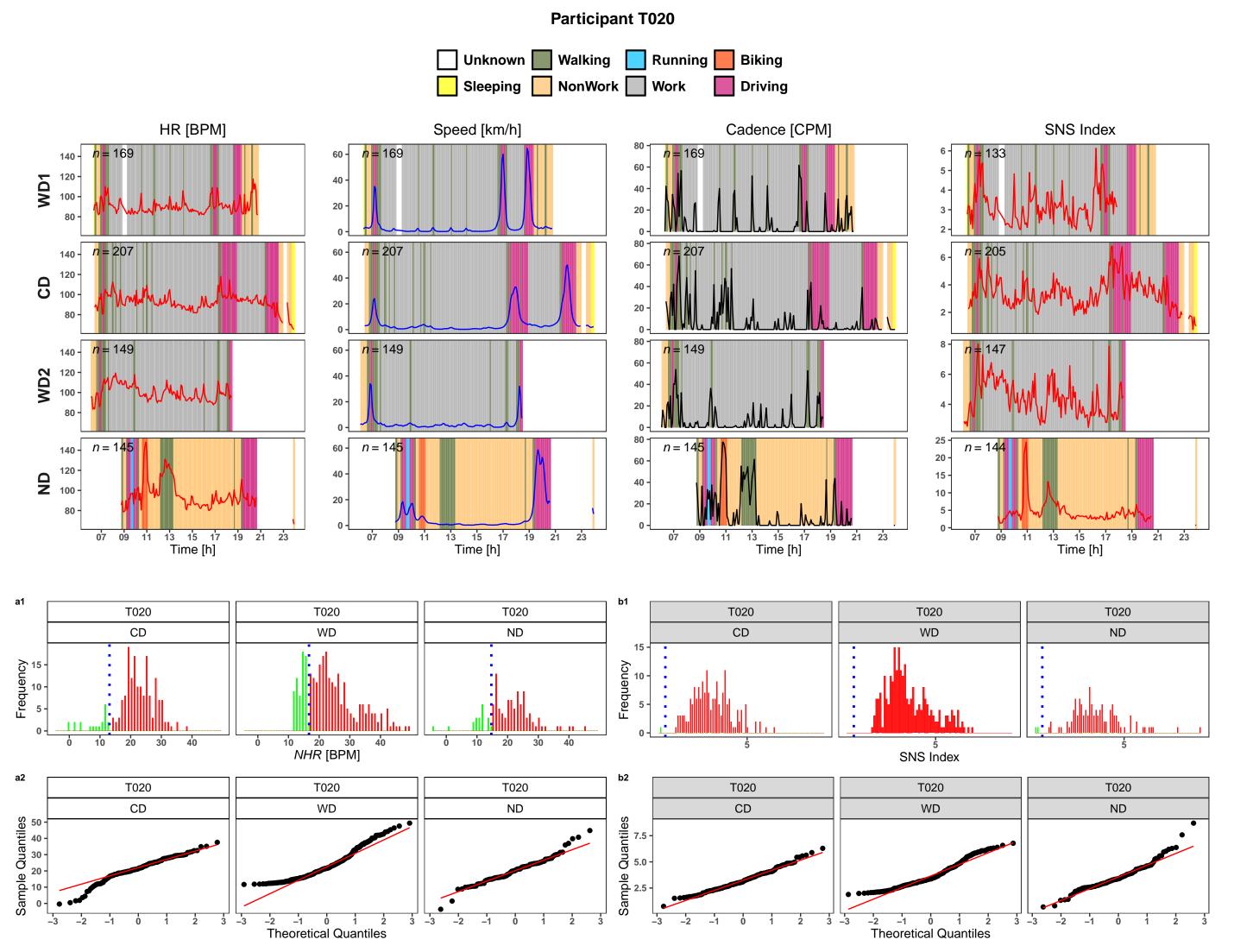
Debriefing: A crisis leader of an emergency unit with two kids. Her biggest challenge is balancing her responsibilities as a crisis leader with her family life, particularly when her partner is working abroad. On the critical workday, she received a call about a gas shortage while managing her children at home, which was both physically and mentally draining. On her non–workday, she visited a nearby castle with her kids. After many days of multitasking and social obligations, she cherished giving her children her undivided attention. In the afternoon, she tried to recover by taking a nap. She was exhausted as she experienced midnight awakenings characterized by racing thoughts and lingering to–do lists that disrupted her sleep during her on–call period.



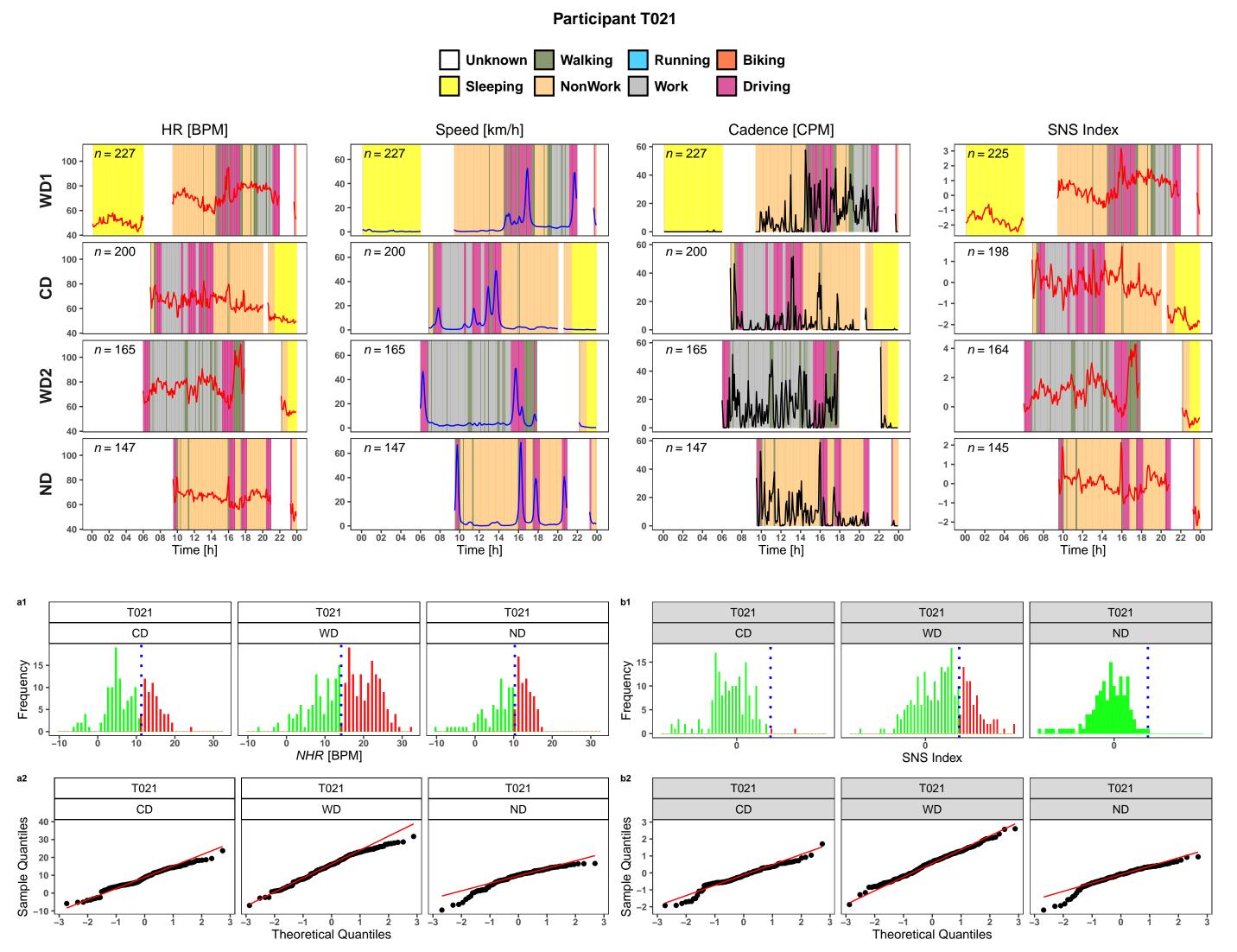
Debriefing: An experienced crisis leader in an emergency unit. She faces stress from managing a large team, dealing with high absenteeism due to sick leave, and handling emotionally charged conversations with staff. On the critical workday, she had a tense meeting with a challenging employee, which resulted in noticeable HR issues. On her non–workday, she completed some work–related tasks at home. Her grandson visited, and they took a nap together around 11:30. In the afternoon, she dropped him off and visited her brother, where they enjoyed chatting with friends.



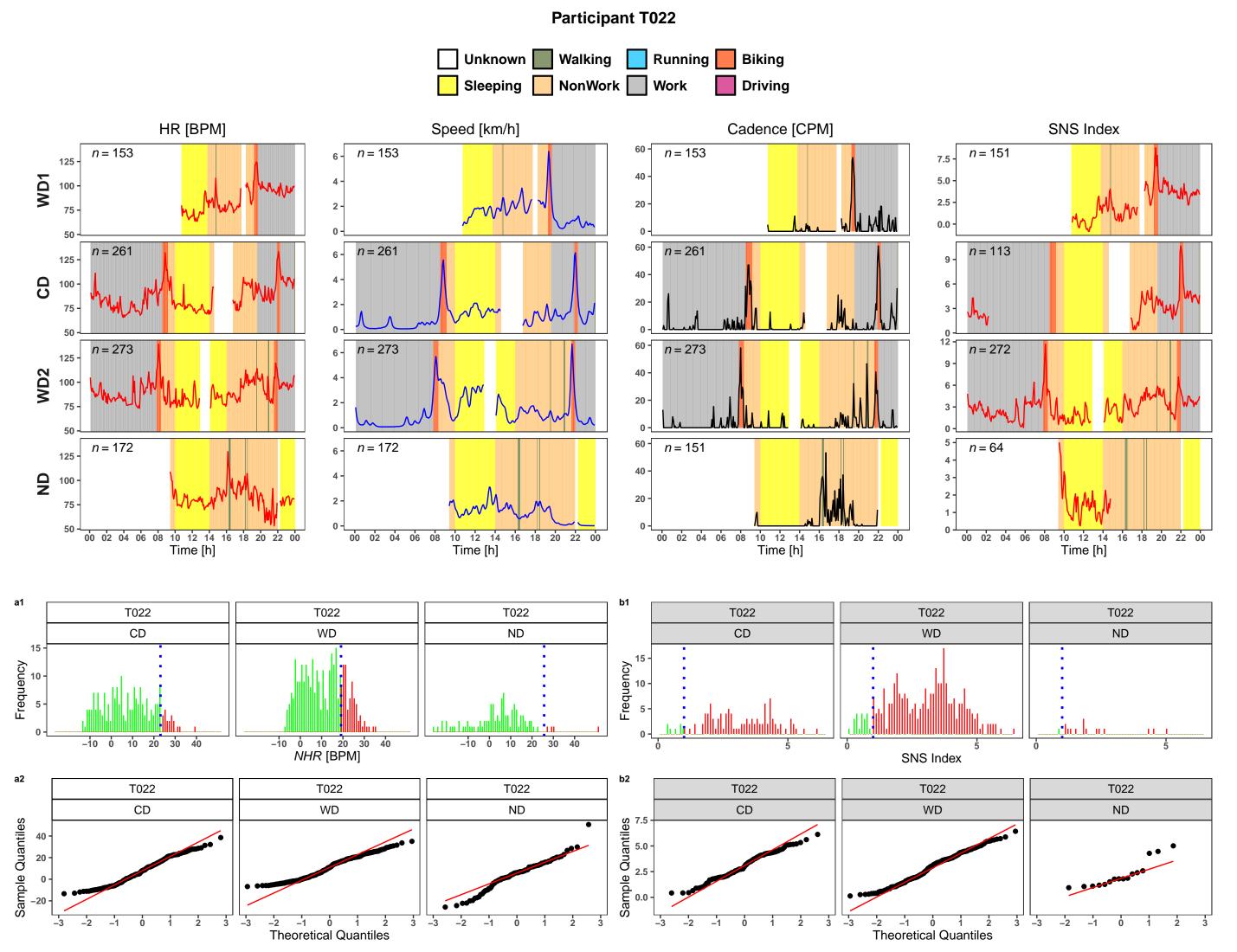
Debriefing: A police officer who specializes in managing large-scale events. He often experiences high levels of stress while coordinating multiple security teams, especially during high-risk sports games. On the critical workday, he held three crucial briefings before the match and later had to address crowd violence that erupted between two fan groups. Despite the pressures of his job, he finds immediate relief at home with his supportive partner. One of his primary recovery strategies involves debriefing his day with his partner, which helps him separate his work life from his personal life. On his non-workday, he slept in and enjoyed his nephew's first birthday at a family gathering near his home. In the afternoon, he ran errands. He ended his day by ordering food.



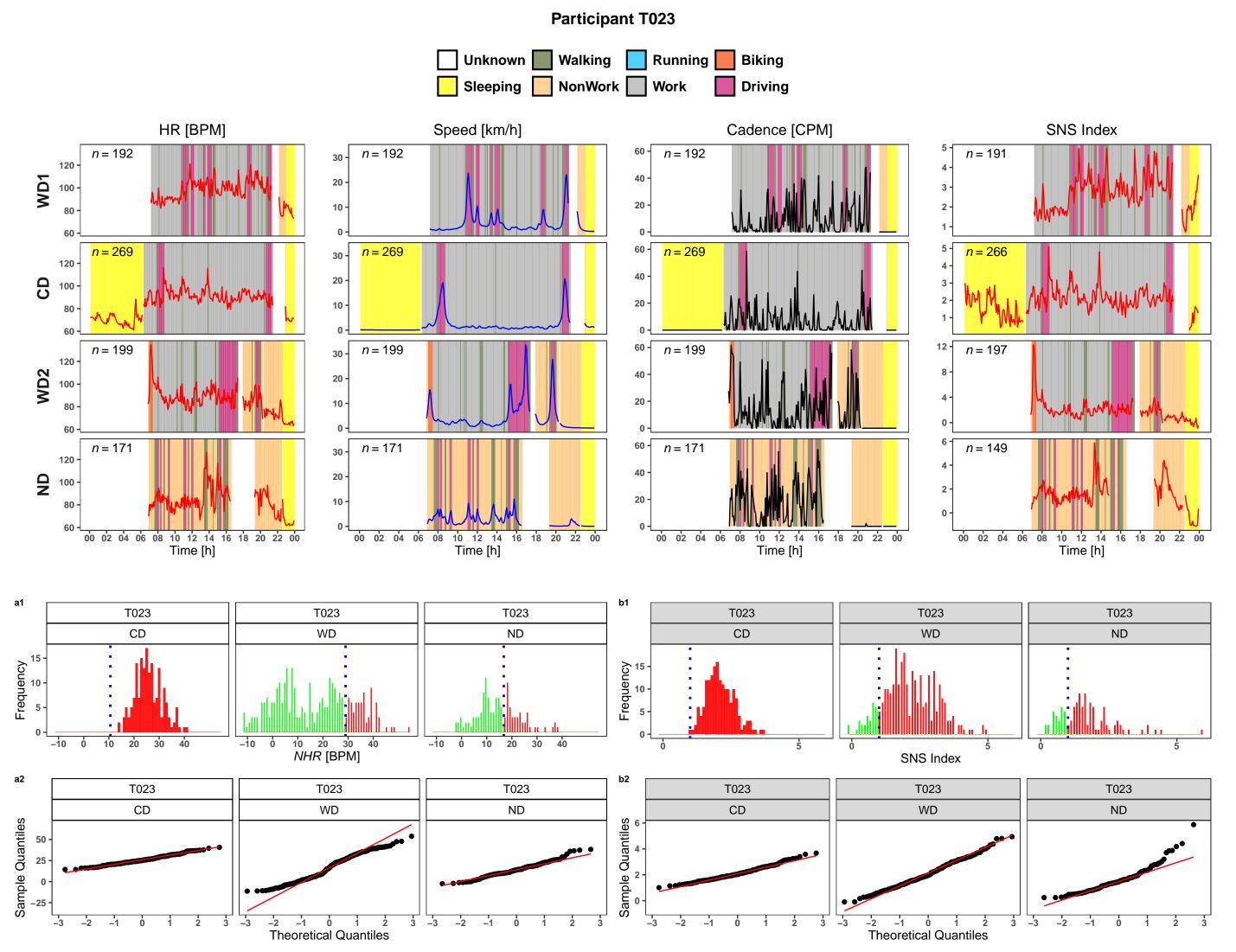
Debriefing: A crisis leader in an emergency unit and a medical doctor. He faces challenges due to long work hours and high–pressure organizational meetings. On the critical workday, he managed difficult staff interactions while completing his clinical rounds. In the evening, he had to rush to deliver a lecture, leaving him no time to decompress. On his non–workday, he went for a run, did some home chores, picked up his parents from the airport, and helped them settle in at home.



Debriefing: A special police force member. He often faced ad hoc missions that disrupted his sleep and triggered physiological responses such as sweating and jitters after intense operations. He was monitored during his "on-call period." On the critical workday, he was called in for a nighttime stakeout targeting a POI. The team waited on stand-by, but the mission was canceled a few hours later. During his non-workday, he enjoyed visiting exhibitions and socializing with friends.



Debriefing: An emergency doctor who faces high–stress levels stemming from the hospital environment's hierarchical dynamics. On the critical workday, she felt frustrated when senior surgeons dismissed her medical assessments. She identified a case of internal bleeding that was overlooked by a surgeon, which eventually required emergency resuscitation. The mistake was not reported. This experience intensified her feelings of frustration and isolation, exacerbated by what she perceived as discriminatory treatment from the surgeon. On her non–workday, she only slept for 4.5 hours. To cope with stress, she practiced light–based meditation, listened to her favorite music, spent time outdoors, and treated herself to her favorite snack.



Debriefing: An experienced special forces member who faced stress during an international conference. On the critical workday, he briefed representatives from 15 nations, managing complex logistical challenges and diplomatic tensions. Despite the mission's success, he struggled with self-doubt, often ruminating over past missions, which made it difficult for him to relax and fall asleep. On his non-workday, he took care of his two kids to relieve some stress for his wife, acknowledging that she had a lot on her plate during his absence. While still quite tired from the demanding work schedule, he found joy in his children's presence and appreciated the feeling of being home with them.

Unknown Walking Running **Biking** NonWork Work **Driving** Sleeping HR [BPM] **SNS** Index Cadence [CPM] Speed [km/h] n = 130n = 119n = 127n = 13075 120 40 WD1 100 50 80 20 25 60 140 n = 168n = 168n = 168n = 16875 120 40 CD 50 80 20 25 60 140 60 n = 248n = 248n = 248n = 12175 120 40 WD2 100 50 80 20 25 60 140 60 n = 95n = 95n = 95n = 9575 120 40 1.0 2 100 50 80 0.5 20 25 60 0.0 00 02 04 06 08 10 12 14 16 18 20 22 00 00 02 04 06 08 10 12 14 16 18 20 22 00 00 02 04 06 08 10 12 14 Time [h] 20 22 00 00 02 04 06 08 10 12 14 10 12 Time [h] Time [h] Time [h] b1 T024 T024 T024 T024 T024 T024 CD WD ND CD WD ND Frequency 21 Prescription 10 Prescription 15 P Frequency 10 0 10 20 30 40 NHR [BPM] 10 20 30 40 10 20 30 40 **SNS Index** b2 T024 T024 T024 T024 T024 T024 WD CD ND CD WD ND Sample Quantiles Sample Quantiles Theoretical Quantiles

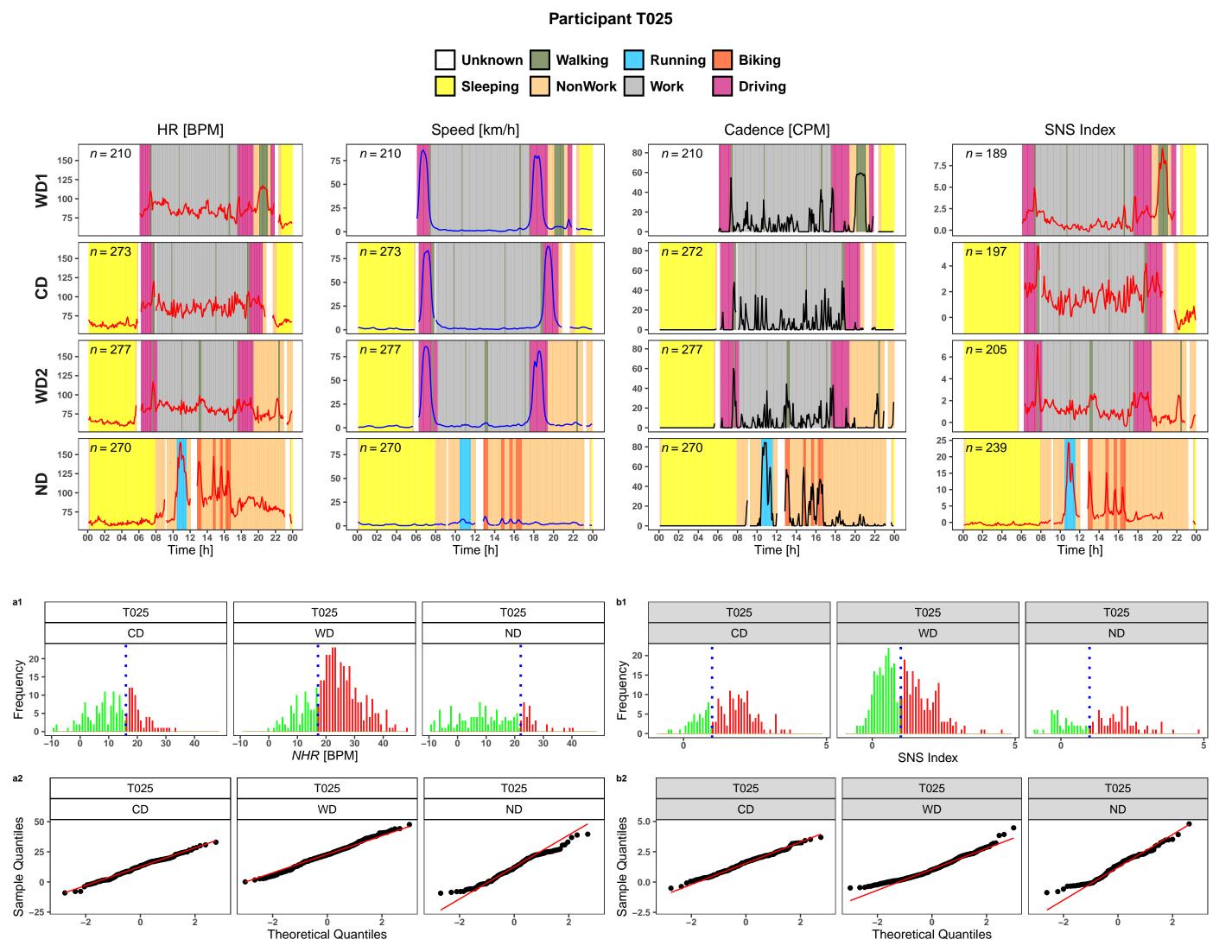
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Participant T024

Debriefing: A special police force member. She led a high-risk international intervention aimed at arresting a POI. The raid took place at 5:30 AM and involved breaching a barricaded room where the suspect was armed. Fortunately, the operation concluded successfully without any gunfire. After the critical workday, she conducted the debriefing, which proved to be cognitively exhausting. On her non-workday, she focused on resting at home.

Theoretical Quantiles



Debriefing: An emergency physician in her mid–30s, manages long shifts at the hospital and frequently experiences stress from handling intense emergency cases. On the critical workday, she assisted a colleague in stabilizing a trauma patient suffering from severe internal bleeding, which caused her to extend her shift beyond its scheduled end. For T025, supervision styles are a significant source of stress, particularly when working under highly controlling senior doctors. To recover from her demanding job, she went for a run and a bike ride and met with friends on her non–workday.