

# Implications of the New ICSD-3 Diagnostic Criteria for Narcolepsy in Patients Diagnosed by ICSD-2

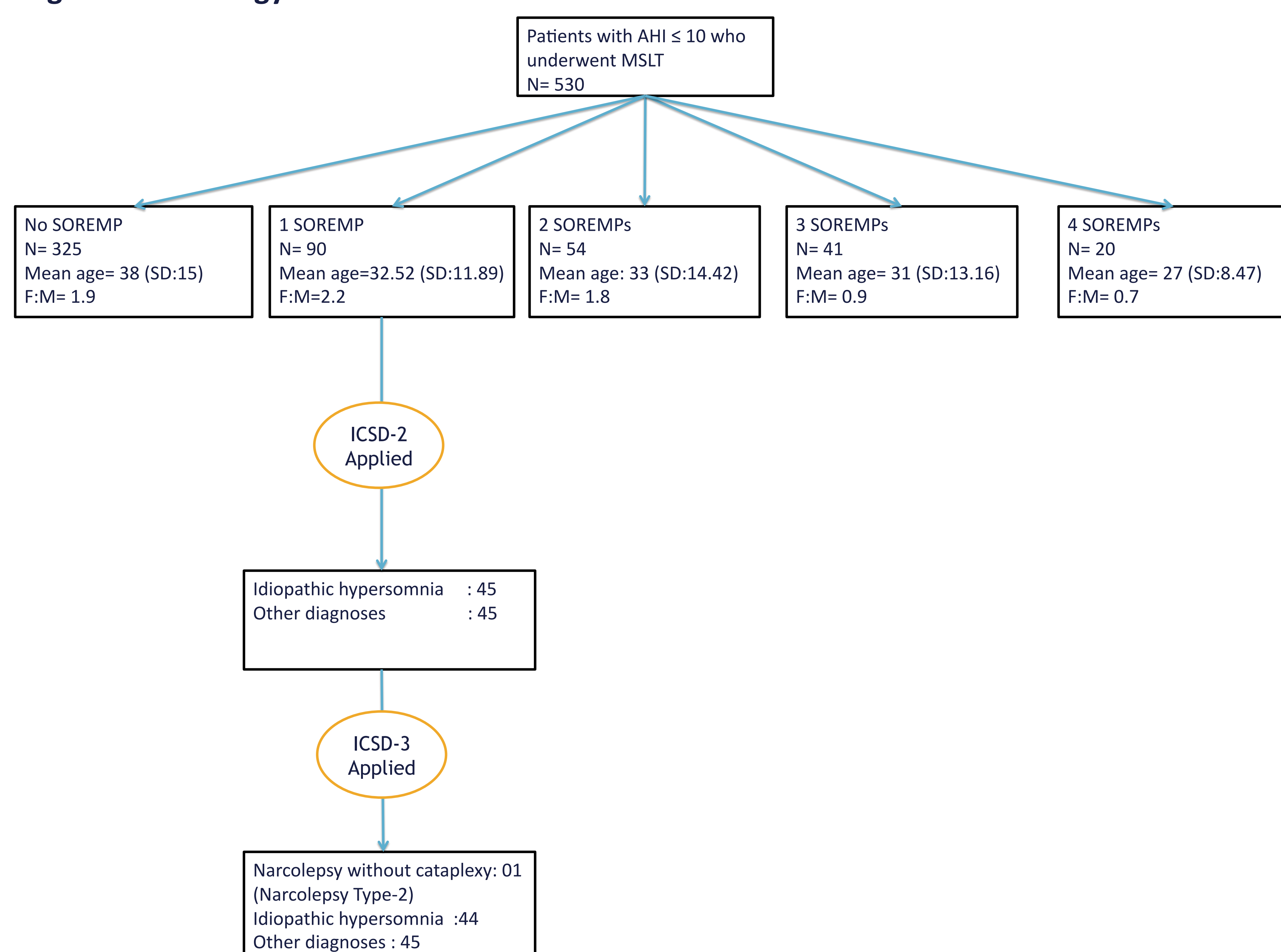
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## BACKGROUND

The ICSD-2 diagnostic criteria for narcolepsy mandated 2 sleep-onset REM periods (SOREMPs) on multiple sleep latency testing (MSLT). Subsequent data suggested that a SOREMP within 15 minutes of nocturnal sleep onset, in the absence of another sleep disorder, is a highly specific finding for narcolepsy, but with low sensitivity. Therefore, the diagnostic criteria for the ICSD-3 allow for a minimum of one SOREMP during the MSLT, provided that the preceding overnight polysomnogram (PSG) also exhibits 1 SOREMP. We sought to re-evaluate the effects of this revision on diagnostic sensitivity by retrospectively applying ICSD-3 diagnostic criteria to patients who had achieved one SOREMP during the MSLT. We also examined the nocturnal PSG predictors of SOREMPs during the subsequent MSLT.

## METHODOLOGY AND RESULTS

Fig 1: Methodology



## RESULTS

- Of the 530 consecutive patients with a PSG apnea-hypopnea index of  $\leq 10$  and who also underwent MSLT, 90 exhibited 1 SOREMP during MSLT (age 32.5, SD: 11.88; 62 females).
- Of these 90 patients with 1 SOREMP, 45 received a diagnosis of idiopathic hypersomnia (IH) and 45 received other diagnoses, including inadequate sleep hygiene, upper airway resistance syndrome and depression, among others. The mean MSLT sleep latency (SL) was 8.38 (SD: 4.38), the mean MSLT REM latency (RL) was 7.96 (SD:4.02), the mean PSG SL was 23.4 (SD:30.48) and, the mean PSG RL was 109.5 (SD:81.19).
- Re-classification of the 90 patients with 1 SOREMP in accordance with ICSD-3 criteria resulted in shift in diagnosis of only one patient (1%) from IH to Narcolepsy- Type 2 by virtue of the inclusion of 1 SOREMP during the preceding PSG.

Table 1: PSG and MSLT Variables Segregated On The Basis Of Number Of MSLT SOREMPs

# MSLT SOREMPs	PSG		MSLT					
	Sleep Latency Mean(SD),Median	REM Latency Mean(SD),Median	Sleep Latency Mean(SD),Median	Mean REM Latency Mean(SD),Median	Nap 1 REM Latency Mean(SD),Median	Nap 2 REM Latency Mean(SD),Median	Nap 3 REM Latency Mean(SD),Median	Nap 4 REM Latency Mean(SD),Median
1	23.5(30.8),12.0	109.5(81.2),77	8.4(4.4), 7.7	8.0(4.1), 8.5	8.0(4.1), 8.5			
2	22.8(22.9), 16.8	97.9(53.5), 88.8	6.9(3.9), 6.6	6.5(3.0), 6.4	7.0(3.8), 6.8	5.9 (3.5), 5.5		
3	19.6(16.5), 15.5	89.8(58.9), 77.5	6.2(4.2), 5.3	5.8(3.2), 5.8	5.2(3.4), 5.0	6.1(4.3), 5.5	6.1(3.6), 6	
4	11.1(11.8), 6.8	58.7(49.7), 62.0	3.3(2.4), 2.5	3.9(2.3), 3.9	4.6(4.1), 3.8	4.2(3.1), 4.0	3.3(2.4), 2.8	3.7(3.4), 2.5

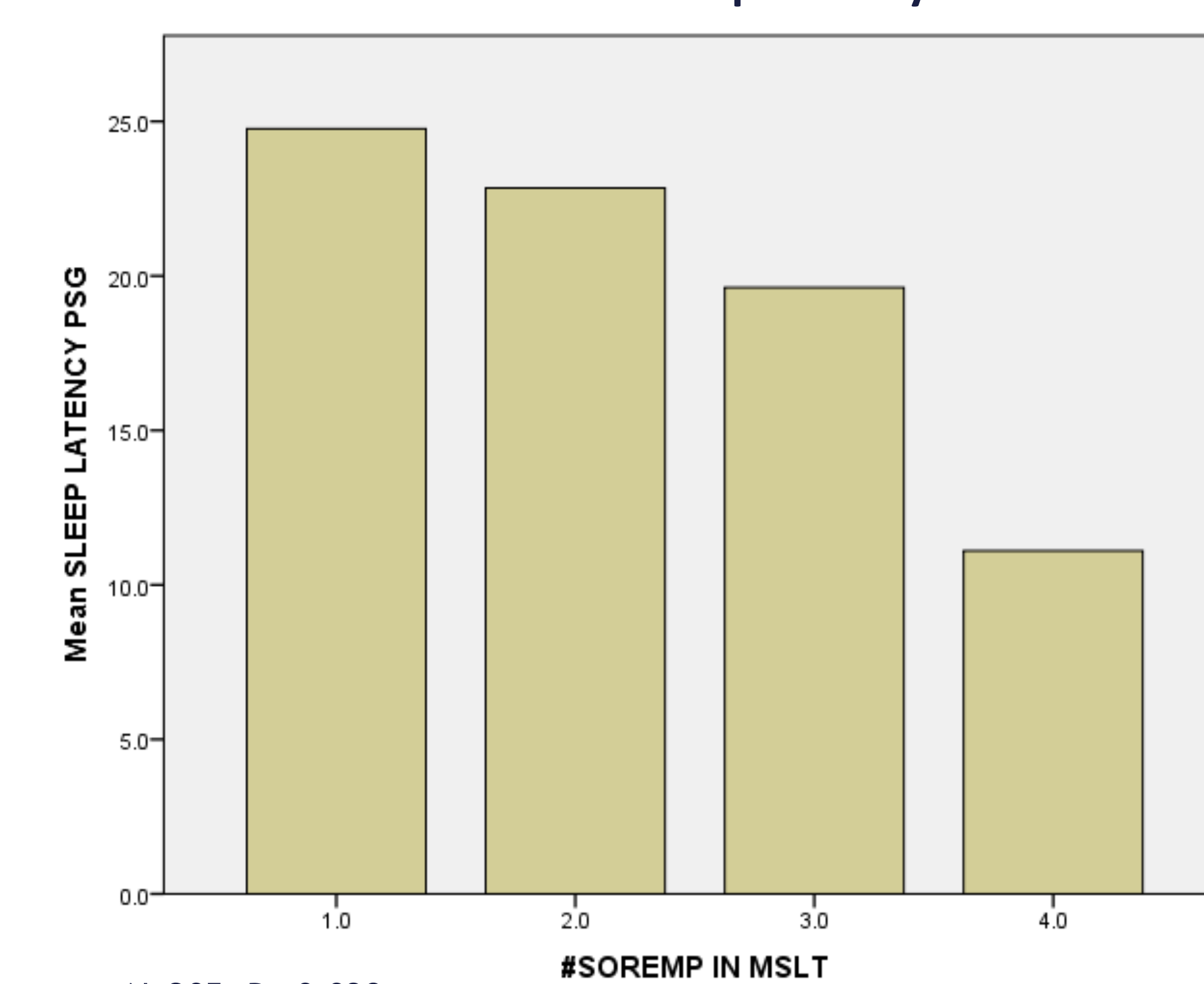
N=205

Table 2: Correlations Between PSG & MSLT Variables

MSLT Variables	PSG/ MSLT variables	P Value
# MSLT SOREMPs	PSG REM Latency	0.001
# MSLT SOREMPs	PSG Sleep Latency	0.038
# MSLT SOREMPs	MSLT Sleep Latency	0.001
# MSLT SOREMPs	MSLT Nap 1 REM Latency	0.001
# MSLT SOREMPs	MSLT Nap 2 REM Latency	NS
# MSLT SOREMPs	MSLT Nap 3 REM Latency	0.003
# MSLT SOREMPs	MSLT Nap 4 REM Latency	0.001
MSLT Sleep Latency	PSG Sleep Latency	0.001
MSLT Nap1 REM Latency	PSG Sleep Latency	NS
MSLT Nap2 REM Latency	PSG Sleep Latency	NS
MSLT Nap3 REM Latency	PSG Sleep Latency	NS
MSLT Nap4 REM Latency	PSG Sleep Latency	0.052
MSLT Sleep Latency	PSG REM Latency	0.001
MSLT Nap1 REM Latency	PSG REM Latency	NS
MSLT Nap2 REM Latency	PSG REM Latency	NS
MSLT Nap3 REM Latency	PSG REM Latency	NS
MSLT Nap4 REM Latency	PSG REM Latency	NS

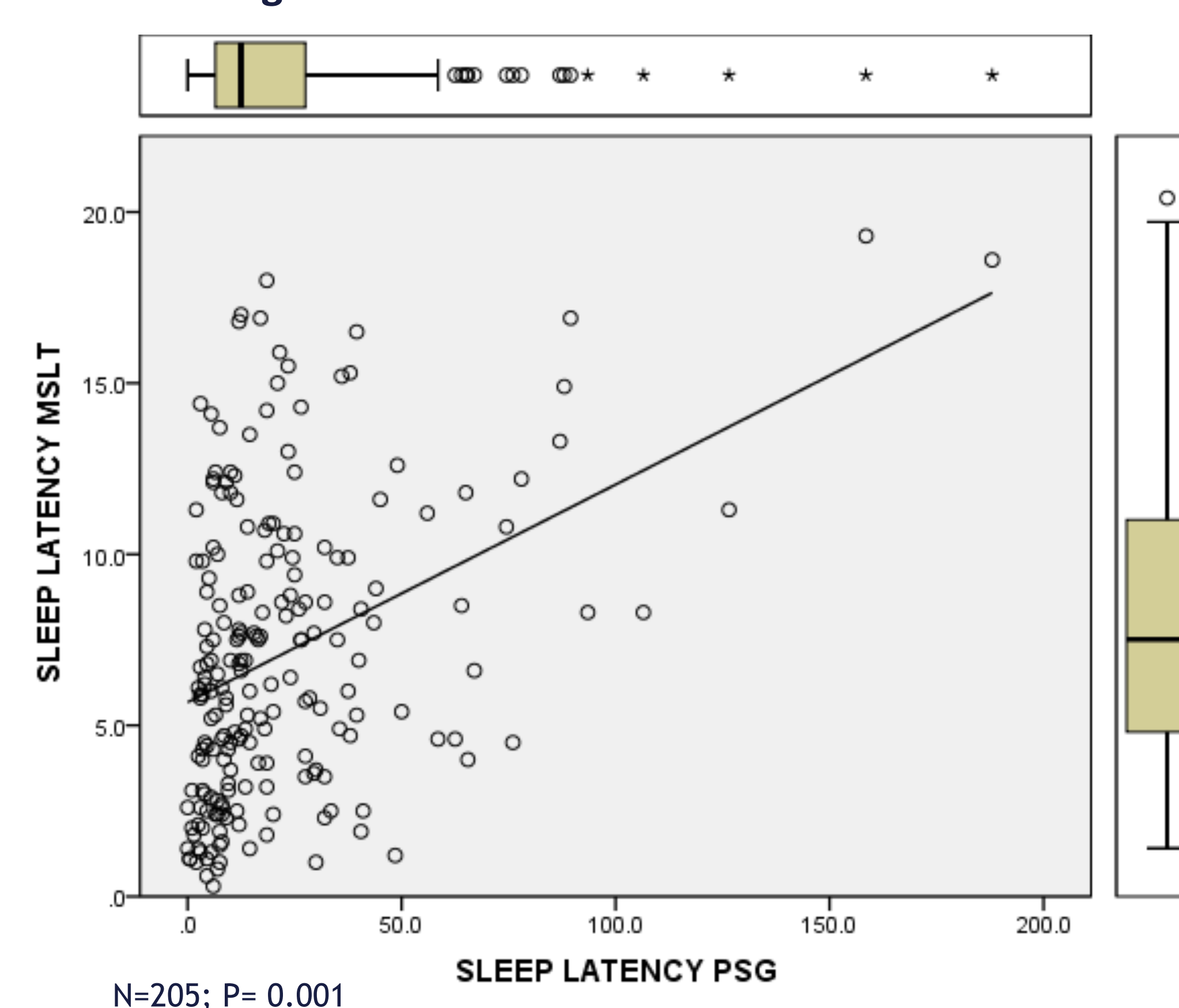
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Fig 2: Correlation Between Number of MSLT SOREMPs & Mean PSG Sleep Latency



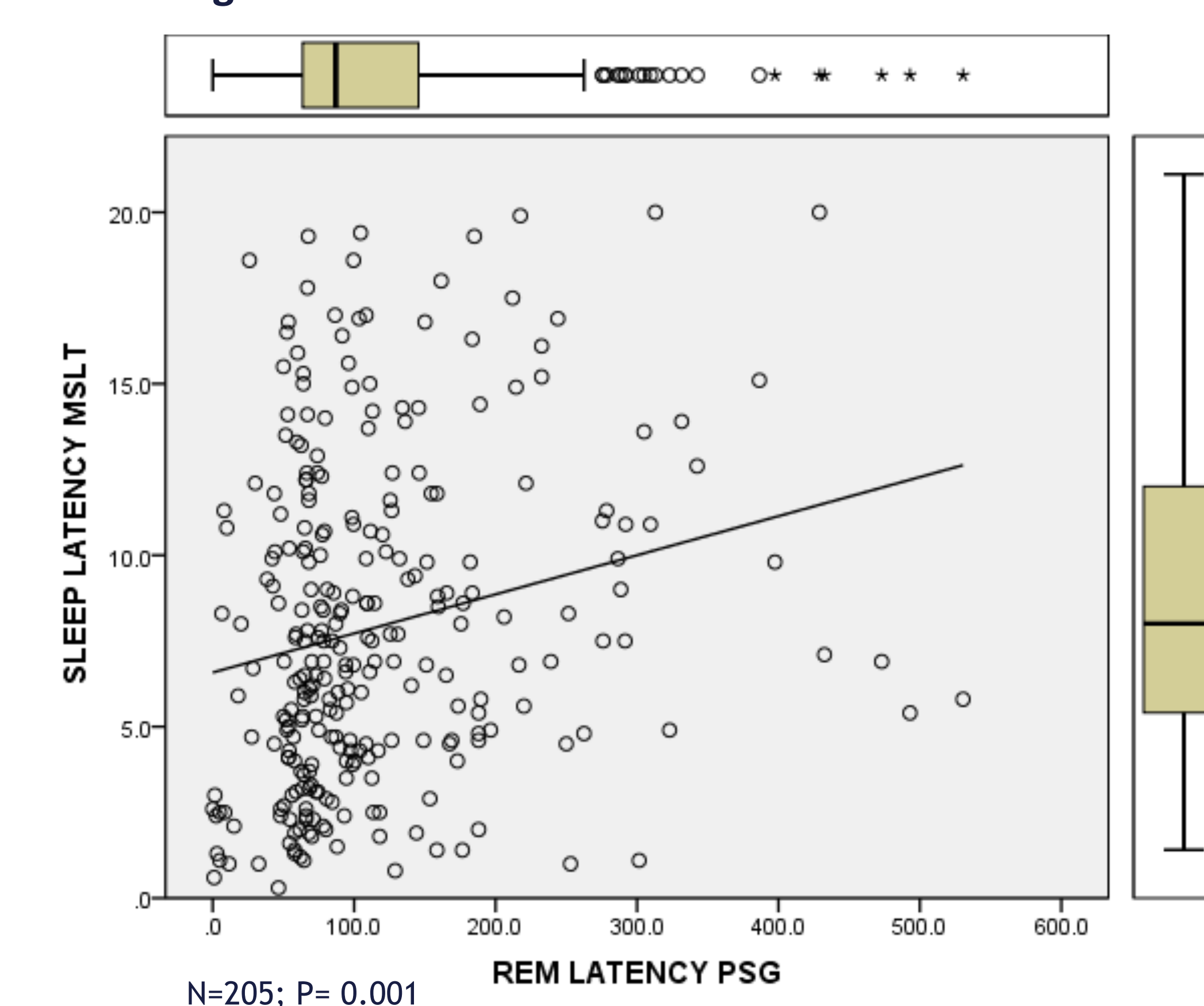
N=205; P= 0.038

Fig 3: Correlation Between PSG SL & MSLT SL



N=205; P= 0.001

Fig 4: Correlation Between PSG RL & MSLT SL



N=205; P= 0.001

## CONCLUSIONS

- ICSD-3 criteria for narcolepsy do not significantly alter the diagnostic sensitivity, when compared to ICSD-2.
- A shorter PSG sleep latency and PSG REM latency as well as a shorter MSLT REM latency predict a higher number of SOREMPs in MSLT.
- An MSLT should be considered in patients with short PSG REM latency and PSG sleep latency in the absence of significant AHI, when clinically appropriate.

## REFERENCES

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