Annoyance and noise sensitivity of teachers in relation to age, gender and measured noise in schools of Sao Paulo, Brazil

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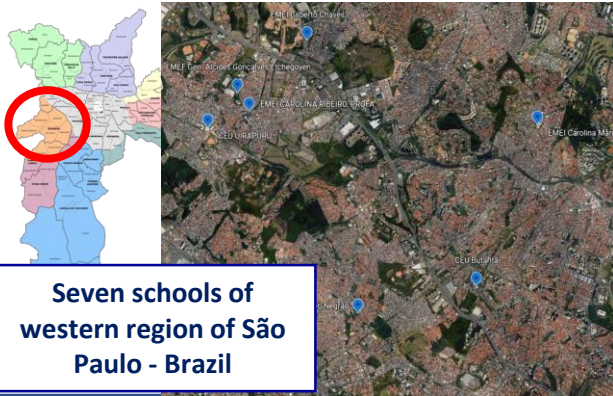Corresponding author's e-mail address: alesamelli@usp.br

AIM

To investigate teachers' annoyance and sensitivity to noise and whether some individual characteristics or the measured noise may be related to the perception of annoyance or sensitivity to noise.

MATERIALS AND METHODS

Seven schools of western region of São Paulo - Brazil

NOISE MEASUREMENTS

- Noise meters installed outside of the buildings of schools.

- **LAeq** was measured continuously for one week.

- **Lday** - 7AM-6:59 PM (operation hours).

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85 teachers
Noise Sensitivity Questionnaire - NoiSeQ-R
- Work (4 questions)
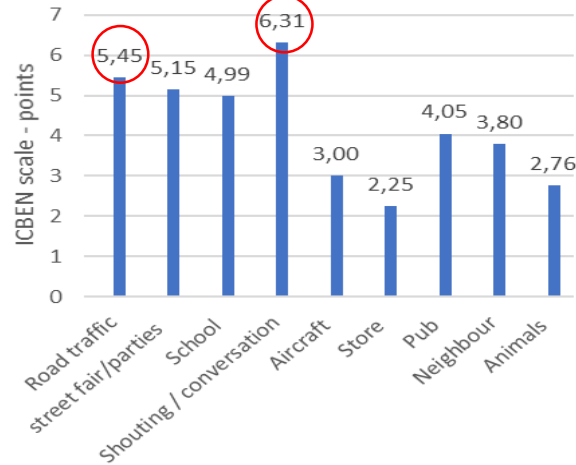- General (1 question)
4-point verbal scale (0 to 3 points)
"strongly disagree" to "strongly agree"

ICBEN (International Commission on Biological Effects of Noise) scale
- 11-point numerical scale (0 to 10 points)
annoyance related to different noise sources

RESULTS

LAeq	Mean	SD
Lday (dB(A))	65.7	3.18

The highest mean was for conversation/shouting, followed by road traffic

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Mixed linear regression coefficients by annoyance categories (ICBEN scale)

	Road	Street fair / Parties	School	Shouting /convers	Aircraft	Store	Pub	Neighbour	Animals
Age - 28-39 years (Ref)									
40-49 yrs	-0.46	0.20	1.89*	1.59**	-0.13	0.26	0.16	0.57	0.54
50-61 yrs	-0.56	0.72	1.10	-0.42	1.56**	-0.13	0.67	0.01	0.78
Gender - Female (Ref)									
Male	0.85	0.41	-0.29	-1.18	1.63	0.18	-1.30	0.72	1.13
Lday	0.01	0.02	-0.07	0.01	-0.10	-0.08	0.05	-0.01	-0.09

Legend: p-value - *p<0.05; **p=0.07

Mixed linear regression coefficients by NoiSeQ-R

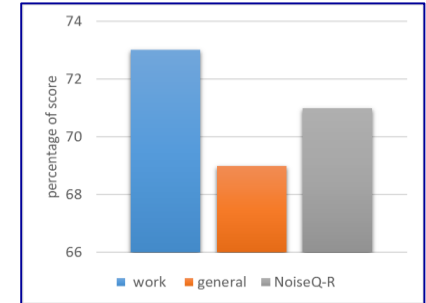|	General	Work	Total
Age - 28-39 years (Ref)			
40-49 years	0.82*	0.16	5.57*
50-61 years	0.28	-0.19	1.26
Gender - Female (Ref)			
Male	-0.10	0.51	1.85
Lday	0.05	0.04	0.47*

Legend: p-value - *p<0.05; **p=0.07

Teachers in the age group of 40 to 49 years were mostly annoyed about noise from nearby schools (p=0.034 compared to <40 years).

Sensitivity to noise was highest in middle-aged teacher (40-49 years; p<0.001).

Higher measured noise during the day was related to higher noise sensitivity scores (p=0.040).

CONCLUSION

- We found that the variation in noise between schools is small and our sample is also small.
- Middle-aged teachers were more annoyed and sensitive to noise.
- Gender is not associated with any annoyance measure.
- Higher measured was related to higher NoiseQ score, suggesting that teachers get more sensitive if exposed to high noise level.