P041 Noise Exposure

Preserving the hearing health of music students:

Exploratory study on knowledge, behavior and attitudes facing sound overexposure

Work and music study environments are recognized as places producing high sound levels. Combined with poor music practice habits, these conditions increase musicians' risk of developing hearing problems. It is therefore important to study the risks associated with sound overexposure in this population.

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01 OBJECTIVE & HYPOTHESIS

This study aims to evaluate music student's level of knowledge on issues related to hearing health, their behaviour and habits regarding sound exposure in their profession and everyday life in order to explore the risks linked to sound overexposure for musicians.
Our hypothesis is that music students would have a low level of knowledge about the impact of sound overexposure on hearing health and would still adopt bad habits impacting their hearing due to stigma regarding preventive measures.

02 METHODOLOGY

A questionnaire was co-created by professors and students from the Faculty of Music and the department of audiology at the University of Montreal. The questions focused on the level of knowledge of musicians on hearing health, on the effects of loud noises on hearing, as well as on behaviors and lifestyle habits such as sound exposure in musical practice, in daily life and prevention strategies for musicians. The analysis was carried out with IBM/SPSS version 29 software using the 5% significance level. The Chi-square test with exact p-value, Student's t-test, analysis of variance (ANOVA) and Pearson correlation coefficient were used for the analysis.

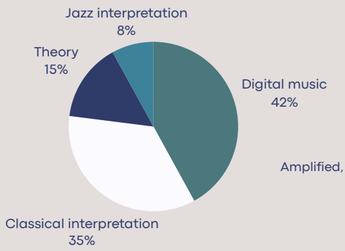
QUESTIONNAIRE

03 PARTICIPANTS

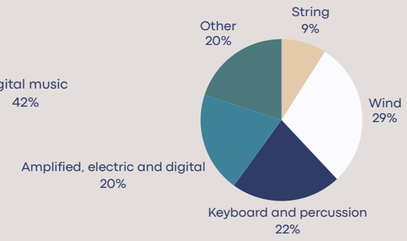
65 students from the Faculty of Music of the University of Montreal participated in this study.

Aged from 18 to 67 years old (mean ± SD = 26 ± 9),
46% men, 49% women, 4% other
69.3% undergraduate degree, 30.7% post graduate

School program



Instrument



04 RESULTS

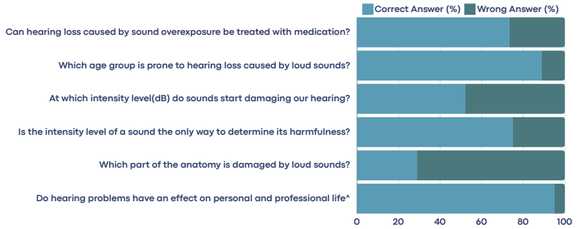
Table 1: Correlations with knowledge score

	Correlation	P-value	CI 95%
Wearing hearing protection when exposed to loud sounds	**-.274***	.027	[-0.485; -0.032]
Wearing hearing protection when other musicians are playing besides them	-.179	.203	[-0.431; 0.098]
Seeing peers wear hearing protection	**-.367****	.003	[-0.561; -0.135]
Auditory fatigue or hypersensitivity	-.055	.663	[-0.295; 0.191]
Tinnitus	**-.292***	.018	[-0.500; -0.051]

* p<0.05 **p<0.01 ***p<0.001
CI95% : Confidence interval of 95%

The wear of hearing protection (r=-0.274; p=0.027) and seeing peers wearing hearing protection (r=-0.367; p=0.003) is negatively correlated to the knowledge score.
The tinnitus measurement is also negatively correlated to the knowledge score (r=-0.292; p=0.018) contrary to the auditory fatigue and hypersensitivity measurements.

Fig1: Success rating of knowledge questions



Half or more of the participants did not know at which intensity level (dB) sounds became dangerous for their hearing as well as which part of the ear would be damaged.

Fig 2: Auditory fatigue and hypersensitivity

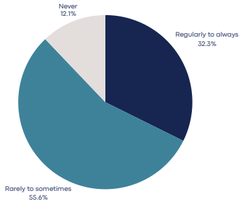


Fig. 3: Tinnitus

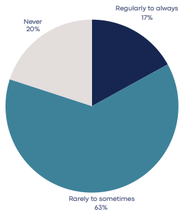


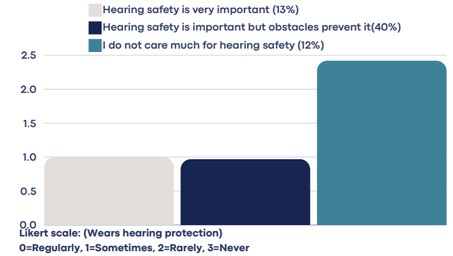
Table 2: Lifestyle habits x Auditory fatigue and hypersensitivity

	No	Yes	P-value	Cohen's D
Loud environments				
Performance hall	(21) 2.52 ± 1.21	(44) 1.89 ± 1.02	0.030	0.589
Nightclub	(53) 2.26 ± 1.08	(12) 1.33 ± 0.98	0.008	0.877
Bar	(28) 2.57 ± 1.10	(37) 1.73 ± 0.99	0.002	0.809
Outdoor festivals	(43) 2.30 ± 1.17	(22) 1.68 ± 0.89	0.032	0.573

P-value based on Student t-test
Description: (n) mean ± SD
p < 0.05; Cohen's D > 0.5 (effect size)

Lifestyle habits scores (attending loud events) are positively correlated with hearing fatigue and hypersensitivity

Fig. 4: Perception of risk x Wearing hearing protection



On average, musicians who did not care much for hearing safety rarely or never wore hearing protection, contrary to musicians who thought hearing safety was important. (Does not care for hearing safety mean=2.42)

05 CONCLUSION

These results reinforce the need to implement awareness-raising actions with music students in order to increase the culture of prevention within this population and protecting them from the risks related to overexposure to noise in music practice and in everyday life. Prevention programs for music students could improve their knowledge and consequently their hearing health, in addition to improving their musical practice and quality of life in the long term.

REFERENCES

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