

PRESCHOOL TEACHERS HAVE INCREASED RISK OF HEARING-RELATED SYMPTOMS



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Aim and short summary

In Sweden, preschool teachers have reported occupational noise for many years. Although it is well-known that noise can cause hearing disorder, we have lacked risk estimates for hearing-related symptoms among preschool teachers.

Therefore, we have analysed and compared questionnaires from 4,932 preschool teachers and 5,065 randomly selected women from the general population.

Results showed that both occurrence and risk of hearing-related symptoms were higher and that symptom onset is earlier among teachers compared to controls. Also, exposure was more common among teachers but they did not wear hearing protection to a greater extent.

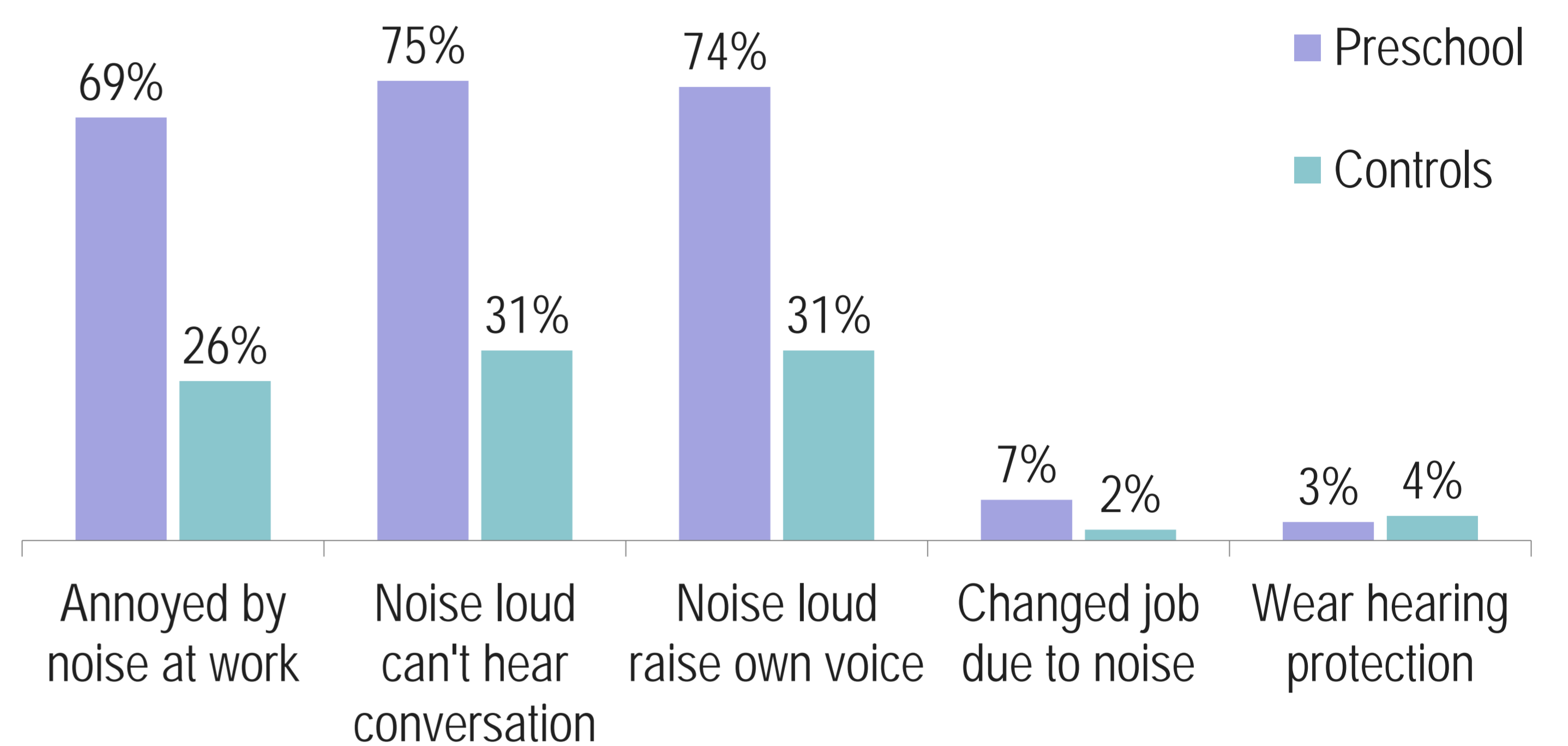
Method

Questionnaires were sent to all individuals with a preschool teacher's degree (n=11,232) and to randomly selected women without a preschool teacher's degree (n= 14,524).

We analysed prevalence, incidence rate, risk ratio and incidence rate ratio. Risk ratio was estimated from log-binomial regression models. Noise exposure, hearing protection and age of symptom onset was compared between the cohorts using chi-2 or Wilcoxon-Mann-Whitney, where applicable. A 5% level of significance was applied.

The age range was 24-71 years among all respondents that were analysed. Median age was 46 years (IQR: 38-54) for preschool teachers and 52 years (IQR: 41-63) for controls.

Results



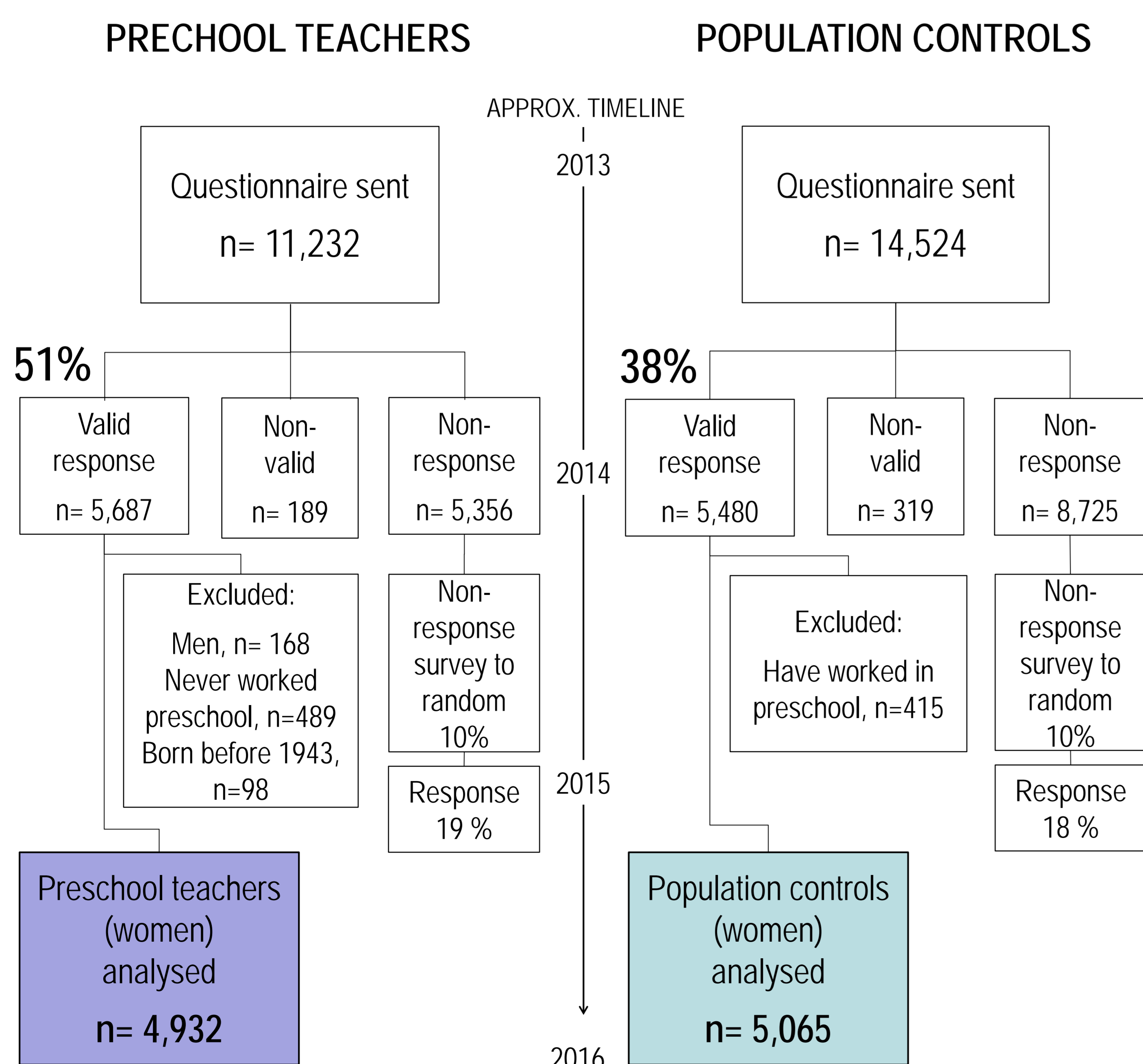
Preschool teachers reported more noise annoyance and noise exposure, but fewer wear hearing protection ($p<0.0001$).

Preschool teachers had higher prevalence and increased risk ratio of hearing-related symptoms:

	Preschool n=4,932 % (95% CI)	Controls n=5,065 % (95% CI)	Risk ratio age-adjusted RR (95% CI)
Hearing loss	19 (18-20)	17 (16-18)	1.4 (1.3-1.5)
Tinnitus	19 (18-20)	15 (14-16)	1.4 (1.3-1.6)
Difficulty perceiving speech	46 (45-47)	26 (25-27)	1.8 (1.7-2.0)
Sound sensitivity	38 (37-39)	18 (17-19)	2.2 (2.0-2.3)
Sound-induced auditory fatigue	71 (70-72)	31 (30-32)	2.2 (2.1-2.4)

Median age of symptom onset was lower ($p<0.0001$), incidence rate and incidence rate ratio was higher for preschool teachers:

	Hearing loss Median (IQR)	Tinnitus Median (IQR)	Difficulty perc. speech Median (IQR)	Sound sensitivity Median (IQR)
Preschool	44 (37-52)	45 (37-53)	42 (35-50)	43 (35-51)
Controls	50 (40-60)	51 (40-61)	48 (38-57)	51 (40-62)
IRR (95% CI)	1.5 (1.4-1.7)	2.3 (2.1-2.4)	1.6 (1.4-1.9)	3.5 (3.2-3.8)



Take home message

Increased risk of hearing-related symptoms among preschool teachers.

New work environments calling for prevention!

