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Determination of noise sensitivity within an internet survey using a reduced version of the Noise Sensitivity Questionnaire

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The Noise Sensitivity Questionnaire (NoiSeQ), that determines noise sensitivity as a moderator of annoyance globally and separately for different everyday activities is with 35 items too long for extended social surveys. This study aimed at the development of a shorter version. Using 429 questionnaires (266 women, 163 men, 16-74 yrs) three factor analyses were performed leading to the NoiSeQ-R that consists of the three subscales 'Sleep', 'Habitation', and 'Work' with 4 items each. The scores are normally distributed, internal consistency is $\alpha = 0.87$ and test-retest reliability varies between $r_{tt} = 0.66$ and 0.74 depending on the time gaps that varied between 1 to 37 months. To test the validity the NoiSeQ-R was applied to a field study where 190 residents (102 males, 88 females, 17-80 years, median: 51 years) in the vicinity of a large airport rated their chronic annoyance (for the previous 12 months) and their actual annoyance hourly during four consecutive days. As expected, noise sensitivity did not correlate with the individual noise load but significantly with annoyance and with age. Thus the NoiSeQ-R, which is available in ten languages, is regarded as a reliable and valid instrument which can be easily applied in even extended surveys.