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Informal caregivers' attitudes towards robots in Hungary and Poland

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BACKGROUND AND OBJECTIVES

Informal care provided by family members for their relatives in need due to ageing or a chronic illness may change with the development of social robots. Informal caregivers' robot-related attitudes can determine their acceptability and use. The aim of our study was to assess informal caregivers' attitudes towards robots in general, using the Negative Attitudes towards Robots Scale (NARS) standard measurement tool.

METHODS

Informal caregivers in Hungary (HU) and Poland (PL) were invited to participate in a cross-sectional online survey. Sociodemographic characteristics of the participants were recorded. The 14-item NARS self-completed measurement tool was applied to assess informal caregivers' negative attitudes towards robots. The NARS comprises three subscales, Negatuve Attitudes toward:

S1: Situations of Interaction with Robots (6 items)

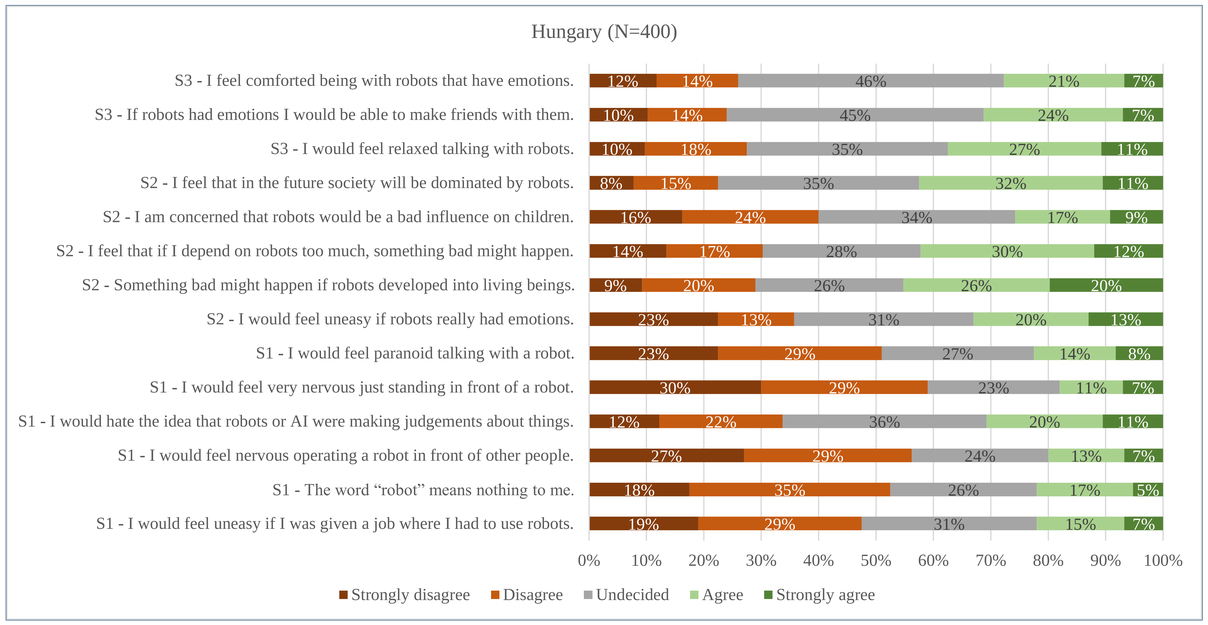
S2: Social Influence of Robots (5 items)

S3: Emotions in Interaction with Robots (3 items)

Each item was assigned with a five-choice answer (1: strongly disagree, 2: disagree, 3: undecided, 4: agree, 5: strongly agree). To calculate NARS score, S3 subscale items were reversed and the average of the 14 items' scores was calculated.

RESULTS

Altogether 400 (HU) and 400 (PL) informal caregivers participated in the study, with mean age of 49 (SD=12) and 43 (SD=14) years, respectively. (Table 1) The average NARS score was 2.83 (SD=0.72) in Hungary and 3.01 (SD=0.59) in Poland.



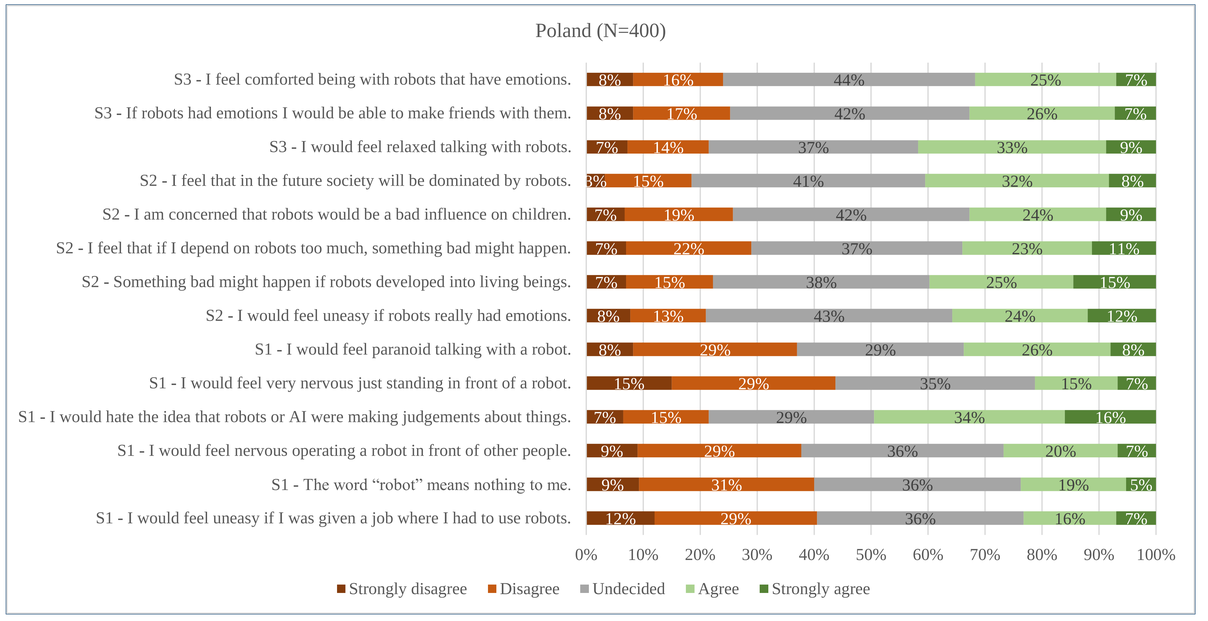


Figure 1. Distribution of responses on the 14 items of the Negatve Attitudes towards Robots Scale (NARS) questionnaire in Hungary and Poland

Table 1 Sample characteristics

	Hungary, N=400	Poland, N=400
Female	280 (70%)	208 (52%)
Age groups (years)		
18-45	141 (35%)	238 (60%)
46-64	222 (56%)	141 (35%)
65+	37 (9%)	21 (5%)
Education		
primary	151 (38%)	60 (15%)
secondary	188 (47%)	222 (56%)
Tertiary	61 (15%)	118 (30%)
Have met a robot	106 (27%)	123 (31%)

Distribution of responses on the 14 NARS items showed similar pattern in the two countries. The 'Undecided' answer was dominant in case of 9 (HU) and 13 (PL) items. 'Strongly agree' response was marked most often for the 'Something bad might happen if robots developed into living beings', 'I would feel uneasy if robots really had emotions.' 'I feel that if I depend on robots too much, something bad might happen.' items in Hungary (20%, 13%, 12%) while these shares were slightly lower in Poland (15%, 12%, 11%).

The 'Strongly disagree' response was indicated by most participants for the 'I would feel very nervous just standing in front of a robot.' item in both countries (HU=30%, PL=15%) while responses differed more on the other items between the two countries.

CONCLUSIONS

Our study revealed a high level of uncertain feelings towards robots both in Hungary and Poland. Concerns regarding something bad might happen if robots developed into living beings was the most common negative attitude. Educational programes and trainings with real robots seem necessary to familiarize informal caregivers with robots before their wider introduction in health and social care.

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