L. DUPUY, W.A. ROGERS. Evaluating the potential of socially assistive robots for healthy older adults. Gerontechnology 2018;17(Suppl):98s-99s; https://doi.org/10.4017/gt.2018.17.s.096.00 **Purpose** Over the last decade, socially assistive robots (i.e. robots providing assistance through social interaction)[1] have been proposed as a promising solution to support aging in place[2]. Nonetheless, most of the research on these robots for older adults is still exploratory and often focused on dementia care[3]. Characteristics of the robot and the population sample, measures of benefit, and experimental design need to be considered to estimate the robustness and the generalization of findings. The goal of our work was to review current research assessing robot interventions to support *healthy* aging. **Method** We conducted a systematic review with the following inclusion criteria: (1) healthy older adults, (2) socially assistive robots, and (3) results from human-robot interaction trials (*Figure 1*). A total of 26 studies was included, and reviewed along the following dimensions: participant details (sample size, age, country), methodology (robot, location, type and duration of interaction, control condition), and outcomes (benefits for older adults, measurement tools). **Results & Discussion** In terms of participant characteristics, we observed that the sample size was typically relatively small, with 19 participants on average (ranging from 1-55) and mainly from Europe or the US (19 studies). This differed from reviews on socially assistive robots for elderly care[2,3,5], which pointed at possible cultural differences and mainly took place in Asia. Concerning robot types, we noted that the majority (14 studies) of robots had animal-like appearance (Paro, Aibo, iCat, Carotz, Wonder); whereas the rest had more human (My Real Baby, Kabochan, Nao) or machine (Robovie, PaPero, HOBBIT, Kompai) characteristics. The trend toward animal appearance may be an effort to link to Animal-Assisted Therapy, demonstrating the numerous positive effects induced by interacting with animals[4]. In terms of experimental design, most of the studies assessed the robots' effect in supervised situations (i.e., with the presence of a researcher, doing requested interaction tasks) either in laboratory or in community living spaces (19 studies). Only 8 studies deployed the robot in users' own home for an autonomous use (deployment lasted from 10 days to 62 days). The majority of the studies (18 studies) did not include a control group. When a control condition was reported, the group comprised of participants using another technology (a tablet, the robot switched off, or a screen version of the robot; 8 studies) or a living animal (1 study). The benefits of social robots were assessed with a variety of outcome measures, typically focused on robot acceptance (usefulness, ease of use, attitudes, satisfaction), assessed through study-specific questionnaires. Other measures included the user's well-being (perceived health, stress, mood, loneliness; 8 studies), autonomy (2 studies), cognitive status (1 study) and caregiver burden (1 study); assessed through validated questionnaires and physiological data. Overall, our review highlights the positive effects of socially assistive robots to support healthy aging. Nonetheless, these encouraging results need to be handled carefully regarding issues that limit their generalizability: sample characteristics, experimental design, and outcome measurement. Furthermore, some questions remain unanswered including: *What specificities of each social robot induce these positive outcomes? How to make a social robot acceptable by older adults? What are the longer-term effects of living with a social robot on an everyday basis?* This work requires future research avenues for the promising field of human-robot interaction.

Figure 1. Some Social Robots. Left: Carotz, center: NAO, right: PaPeRo

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