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Indexing for the studies corpus created for the scoping review "Effects of social robots on depressive symptoms in older adults"

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Indexing for the studies corpus created for the scoping review "Effects of social robots on depressive symptoms in older adults"

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Abstract. *This technical report presents the list of papers referring to the studies included in the scoping review entitled "Effects of social robots on depressive symptoms in older adults" conducted by the authors of this report. In addition, this report also presents a brief description of the social robots used in the studies included in that scoping review.*

1. List of papers referring to the studies included in the scoping review

The following list summarizes the information of the papers referring to the studies included in the scoping review entitled "Effects of social robots on depressive symptoms in older adults" conducted by the authors of this report. For each paper included, we present its identifier [ID] as referenced in the scoping review, its title and the index for its reference (composed of the names of the authors and year of publication). Full reference data can be found in the reference section at the end of this report.

[1] A social robot intervention on depression, loneliness, and quality of life for Taiwanese older adults in long-term care **[Chen et al. 2020]**.
[2] The Effect of Using PARO for People Living With Dementia and Chronic Pain: A Pilot Randomized Controlled Trial **[Pu et al. 2020]**.
[3] Improving well-being in patients with major neurodegenerative disorders: Differential efficacy of brief social robot-based intervention for 3 neuropsychiatric profiles **[Demange et al. 2018]**.
[4] A Pilot Randomized Trial of a Companion Robot for People With Dementia Living in the Community **[Liang et al. 2017]**.
[5] Benefits and problems of health-care robots in aged care settings: A comparison trial **[Broadbent et al. 2016]**.
[6] Effects on Symptoms of Agitation and Depression in Persons With Dementia Participating in Robot-Assisted Activity: A Cluster-Randomized Controlled Trial **[Jøranson et al. 2015]**.

[7] Exploring the effect of companion robots on emotional expression in older adults with dementia: A pilot randomized controlled trial **[Moyle et al. 2013]**.
[8] The Psychosocial Effects of a Companion Robot: A Randomized Controlled Trial **[Robinson et al. 2013a]**.
[9] More than just friends: In-home use and design recommendations for sensing socially assistive robots (SARs) by older adults with depression **[Randall et al. 2019]**.
[10] A Robot a Day Keeps the Blues Away **[Bennett et al. 2017]**.
[11] The Utilization of Robotic Pets in Dementia Care **[Petersen et al. 2017]**.
[12] Therapeutic effects of dog visits in nursing homes for the elderly **[Thodberg et al. 2016a]**.
[13] Psychological and social effects of one year robot assisted activity on elderly people at a health service facility for the aged **[Wada et al. 2005]**.
[14] Effects of three months Robot assisted activity to depression of elderly people who stay at a health service facility for the aged **[Wada et al. 2004a]**.
[15] Psychological and social effects in long-term experiment of robot assisted activity to elderly people at a health service facility for the aged **[Wada et al. 2004b]**.
[16] MARIO Project: Validation and evidence of service robots for older people with dementia **[D'Onofrio et al. 2019]**.
[17] Evaluation of a companion robot for individuals with dementia: Quantitative findings of the MARIO project in an irish residential care setting **[Barrett et al. 2019]**.
[18] MARIO project: Validation in the hospital setting **[D'onofrio et al. 2018]**.
[19] MARIO Project: Experimentation in the Hospital Setting **[D'Onofrio et al. 2017]**.
[20] The Humanoid Robot NAO as Trainer in a Memory Program for Elderly People with Mild Cognitive Impairment **[Pino et al. 2020]**.
[21] Shakespeare and Robots: Participatory Performance Art for Older Adults **[Greer et al. 2019]**.
[22] Shall I compare thee... to a robot? An exploratory pilot study using participatory arts and social robotics to improve psychological well-being in later life **[Fields et al. 2019]**.
[23] Delivering Cognitive Behavioral Therapy Using A Conversational Social Robot **[Dino et al. 2019]**.
[24] A pilot study on using an intelligent life-like robot as a companion for elderly individuals with dementia and depression **[Abdollahi et al. 2017]**.
[25] A pilot study on the eBear socially assistive robot: Implication for interacting with elderly people with Mod depression **[Kargar and Mahoor 2017]**.
[26] Behavioral responses of nursing home residents to visits from a person with a dog, a robot seal or a toy cat **[Thodberg et al. 2016b]**.
[27] Robots in older people's homes to improve medication adherence and quality of life: A randomised cross-over trial **[Broadbent et al. 2014]**.
[28] Examination of practicability of communication Robot-Assisted Activity program for elderly people **[Kanoh et al. 2011]**.

2. Description of used social robots

The following list presents a brief description of the nine social robots used in the studies included in the scoping review to which this technical report refers.

- **Cafero**: A 1.2 m tall robot waiter designed to serve coffee, has a touch screen, microphone, camera, speakers and infrared obstacle sensors. It takes blood pressure, heart rate and pulse oximetry [Broadbent et al. 2014].
- **eBear**: A teddy bear-like robotic platform, equipped with a camera in the head and a Kinect sensor in the chest to collect data about the environment and the people around it, and a tablet on the belly to facilitate interaction with users. It was developed at the University of Denver Computer Vision Lab [Kargar and Mahoor 2017].
- **Guide**: A 1.6 m tall robot, capable of speaking, and displaying messages, images, video and text on a large touch screen and accepting user input on the touch screen. It can take vital signs (e.g., blood pressure) and provide entertainment functions (e.g., music videos and photographs) and Skype-based telephone calling [Robinson et al. 2013b].
- **iRobiQ**: A low robot, has a touch screen, microphone, camera, speakers, infrared obstacle sensors and a face capable of expression through Led lights. It can take blood pressure and pulse oximetry, and has a medication management program, and has music videos and quotes. The robot's head can swivel and tilt in response to the sound, its arms can raise and its base can swivel. It runs on Windows [Broadbent et al. 2014].
- **MARIO**: A robot equipped with a camera, a Kinect, a tablet PC on the trunk for interaction, a speech recognition system to interact with natural voice, and two LiDAR sensors for indoor navigation, object detection, and obstacle avoidance. Its controller and interface technologies support software easy plug-and-play development. It was developed by a consortium of European institutions [D'Onofrio et al. 2019].
- **NAO**: A small humanoid robot designed to interact with people. It has sensors and can walk, dance, speak and recognize faces and objects. It does not have a screen for interaction [IEEE 2020a].
- **PARO**: A robotic baby harp seal designed as a therapeutic tool for use in hospitals and nursing homes. It is prepared to cry for attention and respond to its name by moving its head, tail and flipper, blinking its eyes and emitting harp seal cries. It does not have a touch screen, many sensors or interaction capabilities. [IEEE 2020b].
- **Ryan**: Designed for face-to-face communication with individuals in different social, educational and therapeutic contexts. It has a touch screen tablet on chest for interaction with the user and an emotive and expressive animation-based face with accurate visual speech and can communicate through spoken dialogue [Dino et al. 2019].
- **YORISOI Ifbot**: A 45 cm tall robot, designed with the aim of relieving the loneliness of the older adults through a simple conversation using its conversation communication function. It does not have a screen for interaction or other types of sensors [Kanoh et al. 2011].

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