



An example of play activity involving the therapist and PlusMe

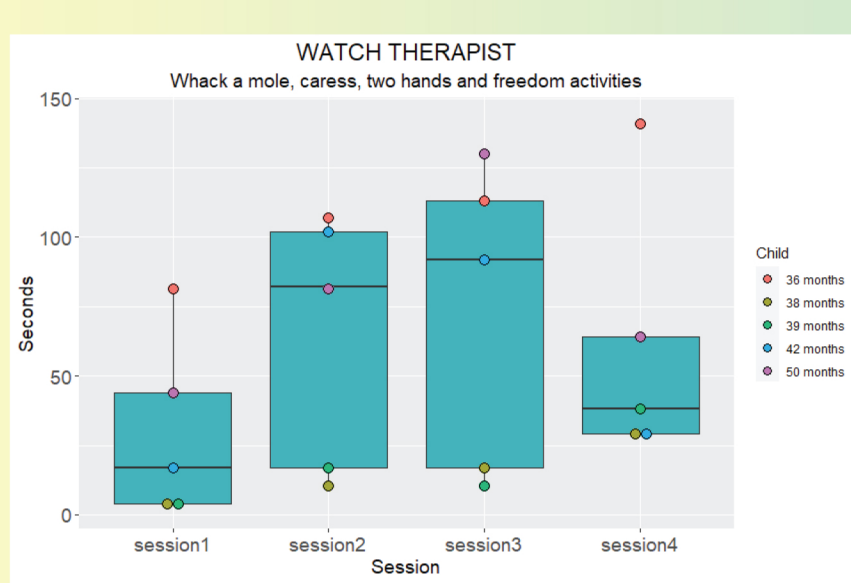
Leveraging curiosity to encourage social interactions in children with Autism Spectrum Disorder: preliminary results using the interactive toy PlusMe

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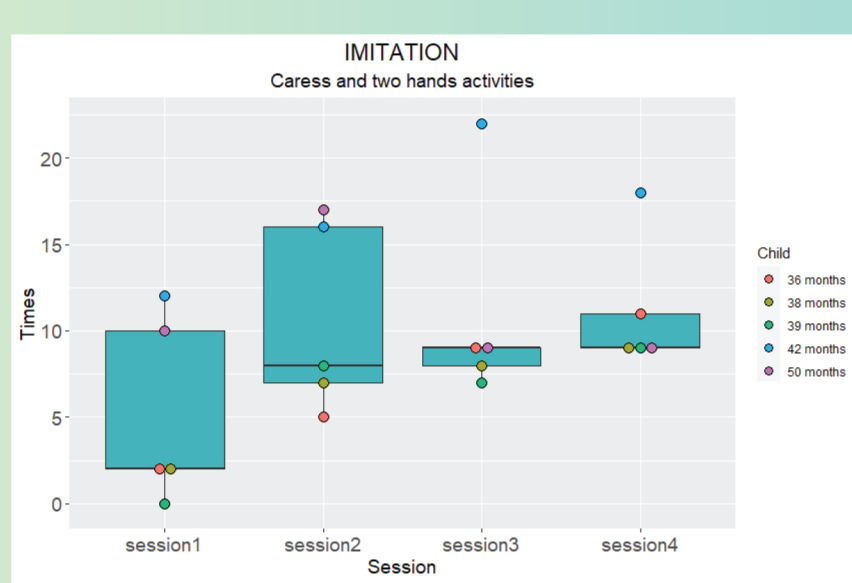
Autism Spectrum Disorder (ASD) is a set of neurodevelopmental conditions, often characterised by impairments in the social area. In the context of early intervention, we present preliminary results about the social behaviour of children with ASD using the PlusMe, an experimental interactive toy, which is the first prototype of Transitional Wearable Companions concept. Specifically, the PlusMe was designed to arouse emotional attachment and reassuring feelings, thanks to the soft material. Thanks to embedded electronics it can emit sensory feedback (such as coloured lights and sounds) when touched on the paws. Given these features, it can be used in simple sensory-motor games with children, to stimulate social behaviour and engagement.

In this pilot experiment, the PlusMe is used to stimulate the children's curiosity and encourage key behaviour for social interaction, such as imitation and eye contact. The test involved five high-functioning ASD children, mean age 41 months, range 36-50 months. The participants were engaged in five play activities together with the PlusMe toy and a therapist who aimed to encourage the social interaction. The session, lasting around 10 minutes, were repeated for four times, one per week.

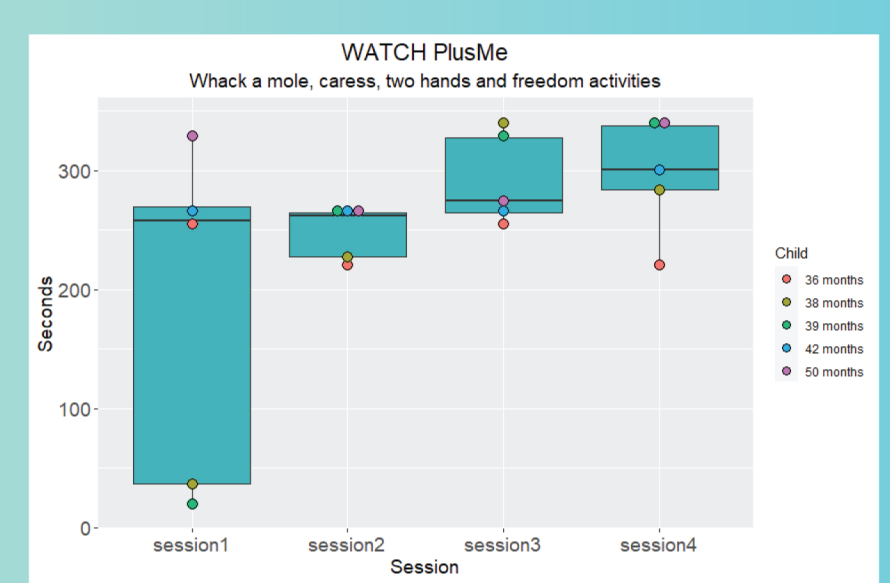
The first data analysis is promising; preliminary observations seem to demonstrate that PlusMe can be used to improve, during the sessions, important social behaviour such as eye contact, imitative gestures, and the interaction between child and therapist. Furthermore, the PlusMe toy is effective in capturing the children's attention, the toy sensory feedback stimulates the child's curiosity and engagement.



Eye contact between child and therapist increments, especially during the first three sessions.



Imitative child's behaviour increase throughout the four sessions.



During the four sessions, the child spends more and more time looking at Plusme.



from Intrinsic Motivations to
 Transitional Wearable INtelligent companions for
 autism spectrum disorder
 a European Union Horizon2020 Project



PlusMe: Transitional Wearable Companions
 for the therapy of children with
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www.im-twin.eu

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